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MANY of our readers remember the competition for the Masonic Temple, at Richmond, Va., which was announced last winter, and which has had a rather novel result. The competition was a limited one, invitations having been sent to fifty-three architects. The first premium offered was not the execution of the building, but a sum of three thousand dollars, in return for complete working-drawings and specifications, general supervision, and a guaranty that a responsible contractor could be furnished to erect the building for one hundred thousand dollars; and the committee reserved the right to reject any or all designs. Nothing was said about the employment of an expert jury to make the award. It is not surprising that only fifteen out of the fifty-three invited architects responded to the invitation, and persons familiar with such competitions will be prepared to learn that none of the designs were found satisfactory. Instead, however, of shipping them back to their owners, and clearing the ground for a fresh transaction, the committee, with what appears to be an honorable sense of obligation to the competitors, selected four of the designs, submitted by Messrs. Jackson C. Gott, of Baltimore, Rose & Stone, of New York, McDonald Brothers, of Louisville, and the J. B. Legg Architectural Company, of St. Louis, placing them in the order named, and reported to the Masonic Temple Association that in its opinion Mr. Gott should be given the first opportunity of making his plans satisfactory, and of demonstrating that the building could be erected in accordance with them for the stipulated sum. If he failed to do so within a reasonable time, to the satisfaction of the committee, its recommendation was that Messrs. Rose & Stone should be allowed the same opportunity; and so on until a satisfactory design was obtained. If one of the four architects named succeeded in making his plan satisfactory, the other three were to receive at once the small sums offered as second, third and fourth prizes, on condition that their designs proved to be capable of being erected within the limit of cost given in the circular. Whether Mr. Gott will manage to make his design pleasing to the committee, or how he will go to work to do so, we are quite unable to say, but he has our best wishes for his success, and, objectionable as the terms of competition were, we are not displeased to see that the committee proposes to adhere rigidly to the limit of cost specified. If it were once understood that this was an essential condition, and that designs which obviously could not be built for the sum named would not be considered, competitions would be much more attractive to honest architects, who, at present, can rarely tell whether to attach most weight to the stipulation in the terms of competition that the cost shall not exceed a given amount, or to the requirement that the building shall contain accommodations which cannot possibly be provided for the sum mentioned, and whose experience tells them that if they faithfully try to keep the price down to the limit, by a simple design, they are very apt to see the prize carried off by some reckless artist, who ornaments his elevations without any regard to expense, and, when he has secured the commission, either strips off coolly all the decoration before he makes contracts, or drags the committee into expending two or three times the sum that it had proposed to the competing architects as its maximum.

A MEETING was held a few days ago in Philadelphia to take measures for raising money to erect in Fairmount Park a monument to commemorate the one hundredth anniversary of the adoption of the Constitution of the United States. The Governors of the thirteen original States were invited, and it was decided to call upon the national Government, and the public, as well as the Legislatures, of the States and Territories, to contribute money toward the object. It is much to be hoped that the effort will succeed. The American people have been rapidly acquiring a taste for monuments, and the erection of statues to Farragut, Lincoln, and a dozen other Northern heroes, in New York, Boston, Chicago or Philadelphia, with those of Lee, Jackson and other Confederate leaders in Richmond and Charleston, have been attended with all the sentiment and enthusiasm that need be desired; but, although no Massachusetts man thinks with anything but respect of the Lee monument in Richmond, and Virginians are quite ready to share in the Northern admiration for Grant's noble qualities, there is no great sympathy between the sections in their feeling about such memorials, and the commemoration of the period when South Carolina and Massachusetts, New York, Virginia, Pennsylvania, and the rest of the emancipated colonies, sacrificed their opinions and forgot their jealousies for the sake of establishing in mutual forbearance and consideration the basis upon which the greatest of civilized nations has been built, would afford a peculiarly fitting occasion for the revival of the old confidence and regard, which the trials and even the quarrels of a hundred years have not shown to have been misplaced. There is now at the North, and probably also at the South, a strong popular feeling of what we might call affectionate Americanism, which finds now and then a chance for demonstration upon the occasion of the visit of some Southern military organization to the North, or *vice versa*. If this feeling, the depth of which surprises nearly every one who has seen it expressed, could be directed toward the promotion of some object having a common interest of sentiment for all sections of the country, the speedy accomplishment of the object would be assured, while the movement itself, if properly directed, could hardly fail to be of much political, or rather, patriotic, benefit.

AN interesting case in which an architect was a party was recently tried before the Court of Queen's Bench in England and is very fully reported in the *Builder*. There were, in fact, two cases, one, no doubt the only real one, being a suit of Mr. Hugh McLachlan, an architect, against Miss Grant, to recover compensation for professional services, while the other was a cross-suit by Miss Grant against Mr. McLachlan for damages for delaying the erection of the building. The evidence showed that Miss Grant, who was the proprietor of a noted girls' school in Kensington, consulted Mr. McLachlan about the erection of a new building for her school. She told him that she wished to build a school for eight hundred girls to cost ten thousand dollars. The architect replied that this could not be done, but that she could either build a ten thousand dollar school to accommodate less than eight hundred girls, or arrange plans for a building to contain the full number, and build at first only such portion of it as could be constructed for the sum she wished to spend. The last suggestion pleased Miss Grant, and she made an appointment with Mr. McLachlan to visit her school the next Saturday afternoon and go with her to see some land near by. This appointment was kept, and Mr. McLachlan at that time told her that his charges for services would be those mentioned in the Schedule of the Royal Institute of British Architects. It was some months before Miss Grant succeeded in purchasing a piece of land to her mind, and she then instructed Mr. McLachlan to prepare sketch-plans. These were made and approved, and working-plans and

specifications prepared for the portion, about one-half, which Miss Grant proposed to build at once. Meanwhile, Mr. McLachlan had written to Miss Grant, pointing out that the cost of the building on the site which she had bought would be much more than on the lot which he had looked at with her, and which she had first tried to buy. When the bids were obtained, the lowest real offer amounted to twenty-four thousand dollars, although there was a much lower one, which Mr. McLachlan, in a letter to Miss Grant, challenged as spurious. The land had been bought on March 10th, the preliminary sketch was approved on March 18th, and tenders were received on the seventeenth of July. Miss Grant then rejected all the tenders, and said she would build the school-house herself, and sent to Mr. McLachlan for the working-drawings. After some correspondence, Miss Grant wrote that she was going away on the twenty-ninth of July and would write to Mr. McLachlan on her return. This she did, notifying him September 15th that she had come back, and asking him to dine at her house whenever the plans were ready, to which he replied that he was ready whenever she pleased. During this month Mr. McLachlan sent in to Miss Grant the surveyor's bill for taking out quantities and for lithographing them, amounting to six hundred dollars. She refused to pay, and said that she would meet the surveyor in a court of law. She did so and was compelled to pay the full amount; but meanwhile a discussion had been going on between her and the architect, the result of which was that she took the work out of his hands, and employed one of her assistants, Miss Harrison, in making plans, which she afterwards carried out at an expense of about forty thousand dollars. On being dismissed Mr. McLachlan asked for his pay, setting his charge at three per cent on the lowest *bona fide* tender for the portion of the building to be executed at once, and one and one-quarter per cent on the estimated cost of the remainder, the total amounting to one thousand and eighty-seven dollars. Miss Grant, in reply, wrote Mr. McLachlan that her estimate of the work for which he had prepared plans was twelve thousand dollars and that she was ready to pay commission on this sum, which Mr. McLachlan declined; and, on his bringing suit, entered a cross-claim for four thousand dollars' damages for loss of interest on the price paid for the land while work was delayed by the architect, and for loss of fees of pupils who were prevented from coming to the school by the delay in providing the buildings.

AT the trial Mr. McLachlan testified that although Miss Grant had specified ten thousand dollars as the amount to be expended, this sum had been gradually exceeded with her consent, and that she had herself called for more costly construction and material in the way of fireproof flooring and terra-cotta fronts, besides increased accommodation. Miss Grant, on the contrary, testified that she had limited the proposed expenditure to ten thousand dollars; that Mr. McLachlan had not prepared the working-drawings for which he claimed compensation, as the detail-drawings were not completed; that it was "iniquitous" that architects should charge five per cent commission; and that the delay in preparation of the plans had caused her losses which she would prove by figures made by her assistant. This lady, Miss Harrison, being called to the stand, testified that the scholars' fees amounted to a certain sum per year and that this sum, multiplied by the number of scholars who would have entered or remained in the school if the new building had been ready sooner, made up the total damage claimed on that point. The architect's counsel here objected that it was necessary to prove that the scholars in question had been removed or detained from the school on account of the delay in completion of the new building, and one witness for Miss Grant was called on that item, who, however, admitted that the young lady about whom he testified was already nineteen years old at the time she left the school. The judge then instructed the jury that there was no question as to the employment of Mr. McLachlan, and that it only remained for them to decide as to the amount to be paid him. By the schedule of the Royal Institute of British Architects, two and one-half per cent were to be paid on the preparation of working-drawings and specifications, with an additional one-half of one per cent on obtaining tenders. As to the one and one-quarter per cent charged for the sketch-plans of the deferred buildings, he did not find any mention of this in the schedule, and supposed it to have been put in as one of the extra charges referred to in the pleading. As to the counter-claim, he had looked over the whole of the correspondence and did not see any complaint from beginning to end about damages arising from delay in completing the plans, nor did he find any evidence that Mr. McLachlan had been warned that he was incurring a penalty of something like five hundred dollars a month for such delay. It was, in his opinion, monstrous that such a counter-claim should have been made. After a few minutes' deliberation, the jury brought in a verdict for Mr. McLachlan of two and one-half per cent on the twenty-four thousand dollar tender for the portion of the building to be first erected, and fifty-two dollars for extra work in making sketch-plans for the complete design, at a scale of one-sixteenth of an inch to the foot, making a total of six hundred and fifty-seven dollars, and they found nothing for Miss Grant on the counter-claim. In explanation of the action of the jury in reducing Mr. McLachlan's bill, it seems probable that it may have considered the absence of some of the detail-drawings to be a fair offset against the one-half per cent charged for obtaining tenders, while the compensation for the sketch-plans, not being specified in the schedule, was probably estimated by the jurymen by the well-known standard of what they would themselves charge for making a few lines on a bit of paper.

THE Architects' and Engineers' Registration bill, recently offered in Parliament, came to an ignominious end on the seventeenth of last month. The bill was taken up on that day for consideration, Colonel Duncan moving the second reading. On this motion a short discussion took place, the engineers in the House of Commons, together with Mr. Isaacs, the only architect, we believe, in that body, and the Attorney General, opposing it earnestly, while not a single voice was raised in favor of it. The Attorney General, in particular, made an excellent point in saying that, in view of the great advance which had been made within thirty or forty years by the members of the three professions concerned, it would be difficult to show in what way the present system had failed; and in his opinion the House ought not to pass such a measure without being informed of the evils which it was intended to remedy. Sir Lyon Playfair added his authority against the passage of the bill, which, as he said, although modelled exactly according to the Act for the regulation of the practice of medicine which he had himself passed through the House, was not founded upon the same conditions, and was viewed with so much opposition by the professions interested that the House could not in justice enact it into law. This closed the debate, and, amid cries of "Withdraw," Colonel Duncan asked leave to withdraw his motion, and the matter was thus disposed of.

THE *Builder* reviews a book by Mr. Arthur Marshall, on "*Antique Carved Furniture and Woodwork*," the most interesting portion of which would seem to be the exposition of the frauds which are continually practised upon the unsophisticated buyer of such merchandise. In fact, the imitation of antique furniture has become a well-recognized business in many places, much to the detriment of artistic work, to say nothing of the morals of the dealers, and the tempers of the deluded buyers. It is well known that certain carvers make a study of the styles of the last two centuries, and reproduce with great success the sweeping, effective strokes of the ancient work; but this pardonable copying is often supplemented by a treatment with clay, which is spread over the carved furniture while wet, and, after drying, brushed off, so as to round the sharp edges of the tool-marks, and give the soft, worn air of antiquity. For imitating the wasted, ridgy look of oak furniture of great age, a wire brush is used, which rubs away the softer portions, leaving the hardest fibres prominent; and rusty nail-heads are often inserted in conspicuous places, on top of the modern screw which really holds the work together. For deluding still further the amateur with more money than experience, it is common to place the forged articles on sale in the rustic cottages of the districts most frequented by tourists. The occupants of the cottage are taught some romantic tale about the history of the pretended piece of antiquity, and a constant stream of Cromwell chairs and Dorothy Vernon writing-desks, many of them furnished with appropriate dates and autographs, passes in this way directly from the London manufactories to the drawing-rooms of susceptible amateurs, who can be relied upon to advertise the business of the enterprising dealer with enthusiasm so long as their delusion lasts, and to say nothing about the fraud practised upon them after it has been discovered.

SOME AMERICAN MONUMENTS.[1]—II.

Monument to Gambetta at Cahors, France. Falguiere, Sculptor.

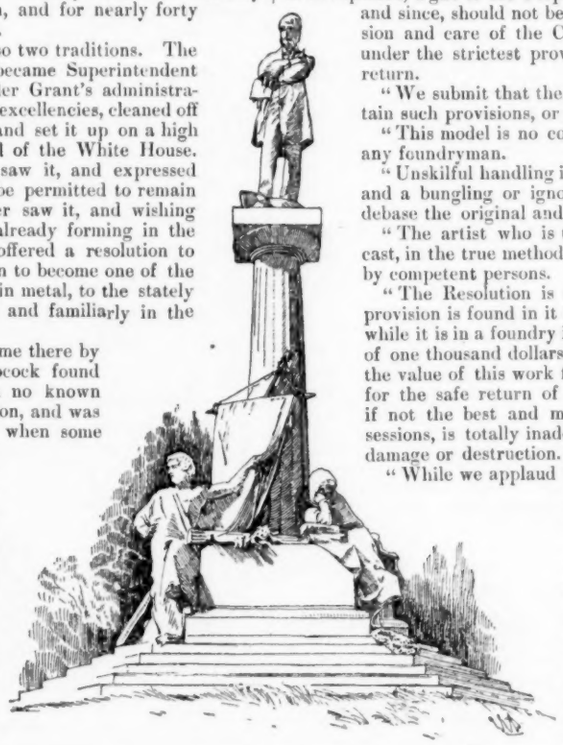
THE BRONZE STATUE OF JEFFERSON IN THE CAPITAL AT WASHINGTON.

IN 1834 Lieutenant Uriah P. Levy, of the United States Navy, brought to Washington a bronze statue,[2] larger than life, of Thomas Jefferson, made by an eminent French sculptor, David d'Angers. He offered it to the people of the United States, through Congress, but that body being largely Whig, refused to accept the statue, although strongly recommended to do so, by Jackson, at that time President. One tradition says, that the President ordered it to be erected in front of the White House. Another, that the statue was placed in front of the White House, in a clump of bushes, by the gardener, to hide it from public view. At any rate, it was not only soon hidden but effectually forgotten, and for nearly forty years remained in peace in that place.

Concerning its finding there are also two traditions. The first is, that when General Babcock became Superintendent of Public Buildings and Grounds, under Grant's administration, he found the statue, admired its excellencies, cleaned off its accumulations of dust and rust, and set it up on a high pedestal in plain air at the east end of the White House. Here, Mr. Hoar, of Massachusetts, saw it, and expressed surprise that so good a work should be permitted to remain out-of-doors. Here, also, Mr. Sumner saw it, and wishing to increase the company of images already forming in the Hall of Sculpture at the Capitol, offered a resolution to Congress, praying it to invite Jefferson to become one of the number. He was therefore brought, in metal, to the stately precincts that had known him often and familiarly in the flesh.

The other tradition tells how he came there by other means. It says, that Mr. Babcock found the statue a mass of verdigris, with no known claim to human respect or appreciation, and was about starting it for the junk-shop, when some chemically-inclined cynic, little aware of the worth of the suggestion, recognizing it as having a value as fine-metal, proposed that as copper was rated low in the market, the statue would not bring a price due its age and distinguished origin, and that it would give a new and unexpected interest to the development of sculpture in Washington, if it were cleaned, placed among its comrades in the Capitol and wait for a rise. The suggestion appeared feasible, and it was adopted. A generous bath of soap and water was given the assiduous author of the Declaration of Independence, and lo! a beautiful piece of bronze appeared to astonish and charm the metallic speculator. Such an example of statuesque reform was sufficient glory for any single administration. Important political changes succeeded this rejuvenating process, and the brilliant spirit of Monticello was lost in the maze of his rapidly increasing marbleized contemporaries.

For some years it remained as lost to sight as though it had remained in its original rustic enclosure, but from time to time an appreciative tourist saw its superior qualities and spoke of them with the enthusiasm that comes with the discovery of a diamond in a pile of rubbish. The city of Washington, tired out with a burden of complaint of its wretched imitations of sculpture, caught eagerly at the first breath of praise, and now the happy inhabitant, the joyful journalist and the hurrying "member from the rooral deestricts," talk of nothing else but "the best statue in Washington."



Monument to Guiseppe Mazzini, Genoa, Italy. Pietro Costa, Sculptor.

In his gift of the statue the patriotic lieutenant not only desired to pay tribute to the Father of Democracy, but he wished to crown Jackson's administration with an act peculiarly fitting, wise and tasteful. On its base it bears the following inscription: "Presented by Uriah Phillips Levy, of the United States Navy, to his fellow-citizens, 1833."

Lieutenant Levy and Lafayette were in Paris together at the time the statue was made, and when it was completed the latter threw his arms around it, and with much emotion, exclaimed, "My beloved Jefferson!"

The original plaster-model was given to the city of New York, by Lieutenant Levy, in 1834, and is in the Governor's Room in the City-Hall. There it remained in worthy tranquility until January, 1886, when the enterprising speculator in bronzes made an attempt to desecrate it, as the following paper will show:

"To the honorable Board of Aldermen. The undersigned respectfully represent to your honorable body: That they are nephews and eldest male relatives of Commodore U. P. Levy, deceased, and are tax-payers and residents of the city of New York. That they have learned that, by a resolution of the Board of Aldermen at a session held on the 4th instant, permission has been granted to 'Patrick Keenan, and such persons as he may associate with him, to make a bronze copy of the plaster statue of Thomas Jefferson, now in the Governor's Room in the City-Hall.'

"We respectfully remind your Honorable Body that this plaster model of Thomas Jefferson, is the *original work* of the celebrated David who was the first sculptor of Paris, and one of the first in Europe, executed under the eye of Commodore Levy who was then a lieutenant in the United States Navy, aided by the valuable suggestions of the beloved Lafayette, and that it was presented by Lieutenant Levy to the city in 1834, more than half a century ago. That he also had a bronze copy perfected in Paris from this model, and presented it to the people of the United States through the two Houses of Congress: The model is more valuable than any reproduction of it in metal can be. It is the Master's own work. An original work of so great value and merit, so precious and impossible to be replaced, a gift to the Corporation, highly esteemed at the time and since, should not be suffered to pass out of the possession and care of the City for any purpose whatever unless under the strictest provisions for its use, preservation, and return.

"We submit that the Resolution in question does not contain such provisions, or any adequate provision.

"This model is no common plaster to be run in metal by any foundryman.

"Unskilful handling is certain to cause irreparable injury, and a bungling or ignoble reproduction would measurably debase the original and bring mortification to the assentors.

"The artist who is to direct and the founder who is to cast, in the true method, should be ascertained and approved by competent persons.

"The Resolution is silent as to these particulars. No provision is found in it for the care or safety of the model while it is in a foundry in the city of New York, and the sum of one thousand dollars, an insignificant sum compared with the value of this work fixed by the Resolution as a penalty for the safe return of one of the best and most valuable if not the best and most valuable of the City's art possessions, is totally inadequate as a security against its loss, damage or destruction.

"While we applaud the public spirit which impels a citizen, or an association of citizens, to undertake the cost of reproduction, we think that all reasonable men will recognize the force of the objections to the Resolution, and we therefore pray:—

"That your Honorable Body will reconsider and rescind the Resolution above referred to, passed January 4th, 1886.

"Respectfully submitted, Asahel S. Levy, Jefferson M. Levy."

David made several sketches of the statue of Jefferson, which are in the possession of his family. A terra-cotta reduction of the head is in the museum of Saumur.

He also made a bronze medallion of Lieutenant Levy, which he gave to the museum at Angers.

David wrote a great deal on art matters of every kind, and criticised freely every work of art and artist that he saw or knew anything about. Very few things passed him, and he ran the whole gamut of the centuries, from the Moses of Michael Angelo, to Rude's bas-relief on the Arch of Triumph, and Barye's Lion and Serpent. Of his own worth he never tired in rapturous appreciation. He had "moments" when his thoughts carried him to the contemplation of art especially, and generally they led him near home.

[1] Continued from No. 644, page 201.

[2] See *American Architect* for July 16, 1881.

At least, on one of these æsthetic voyages, "my thoughts take me to my studio, and I contemplate the majestic shadows of the great men to whose immortality I gave my life, my heart as an artist." He then passes in review the subjects of his chisel, until he comes to Jefferson, when he says: "This is Jefferson! who composed the Declaration of Independence. It seems like a chapter from the Bible!"

Although David has much to say about Lafayette and the bust of Washington, he never mentions the name of Jefferson, except in the apostrophe above quoted, and forgets the unusual, individual generosity and patriotism of Levy. This is all the more strange, for two reasons; first, because he paid great attention to the details of his experience; and second, because the Jefferson, as before stated, was made under the constant personal care both of Lafayette and Levy. Besides, it was a very rare occurrence in David's experience as a sculptor to receive so important a commission, as a large statue, from one person, and especially from a citizen of the Great Republic, in the founding of which, his friend Lafayette took a worthy part, and the Father of which was the great Washington, for whom he had such deep veneration. For the head of the statue the sculptor used a portrait in the possession of Lafayette.

Gossip has also been busy in regard to how the Jefferson came to be made, but the writer has found no evidence confirming the truthfulness of the stories set on foot by this assiduous dame.

In the "*Life of David*," it is stated, wrongly enough, that the Jefferson was paid for by a National subscription. After describing the statue, the author, M. Jouin, remarks, "The future President seems to be ready to march, as though he was carrying through the new world the words of liberty."

While Fennimore Cooper was American Consul in Paris, David executed a marble bust of the novelist, in 1827.

In 1828, Lafayette ordered of him a large bust of Washington, which was afterwards burned, somewhere in America. On receiving the money for the work from Lafayette, David returned it, with the remark that, while he was not rich enough to work for nothing, he yet could afford himself the pleasure of producing such a head without pecuniary return.

He executed a bronze medallion of J. Augustine Washington, a descendant of the first President, while he was a student in Paris, because he wished to honor the latter as a descendant of the former.

When he sent his large bust of Lafayette, in 1828, to America, he wrote a long letter to the President of the United States, and in it expressed the wish that the bust might be placed in the Capitol at Washington beside the monument of Washington, which he supposed was already erected there.

In his bas-relief, on the benefits of printing, which is part of the monument to Guttenburg, he modelled the heads of Benj. Rust,

Light-house on the Isle of May.

Lewis, Morris, Henry Laurens, Washington, Franklin, Jefferson, Hancock, John Adams, Lafayette, and Bolivar.

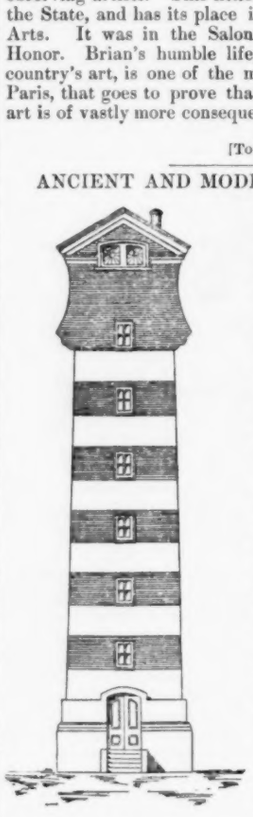
It is also related in the "*Life of David*," that one of his marble workmen named Beglar, had been in America, and often seen Washington. And this little anecdote is told by him of the Great Virginian, as an illustration of the practical perservance of his nature: "One day as Washington was in the field overlooking his negroes, he saw one who had one hand bandaged so that he could not use it, and so did not work. Whereupon Washington put one of his hands in his pocket, took a hoe in the other and gave the negro a lesson in working with one hand."

David was a sculptor of great talent, but he injured his reputation by trying to do too much work. He is better appreciated by critical artists for his superb medallions, which he made by the hundred, than for his statues. Many of the latter are considered dry and stiff in execution. He was singularly lacking in the understanding and appreciation of great art. His pupils were many, and one of them, Jean Louis Brian, left one uncompleted statue, in clay, at his death, that for high sculpture is regarded as one of the very few masterpieces of French art worthy to be mentioned in connection with the Greek. And yet its author has no popular history whatever, and his name and work are only mentioned by the small number of carefully observing artists. This little statue is in bronze, at the expense of the State, and has its place in the corridor of the School of Fine Arts. It was in the Salon of 1864, and received the Medal of Honor. Brian's humble life, and his priceless contribution to his country's art, is one of the many instances in the history of art in Paris, that goes to prove that much that is not popularly known in art is of vastly more consequence than that which is too much known.

T. H. Bartlett.

[To be continued.]

ANCIENT AND MODERN LIGHT-HOUSES.[1]—XXI.



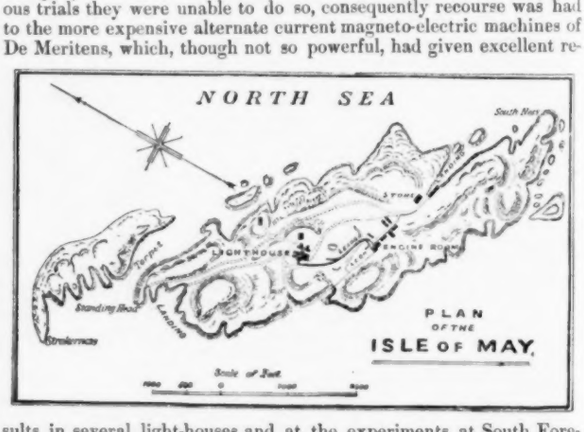
Light-house at St. Pierre de Royan, France.

The light-house situated on the Isle of May, Scotland, at the mouth of the Firth of Forth, was originally lighted in 1636 by an open coal-fire; it was altered in 1816 to argand lamps, with silvered parabolic reflectors; in 1836 it was converted to the dioptric system, and on the 1st December, 1886, the electric-light was substituted: as this light is now the most powerful in the world, a general description may be of interest in this connection.

The Board of Trade suggested its introduction at the Isle of May, on the ground that "there was no more important station on the Scottish shores, whether considered as a landfall, as a light for the guidance of the extensive and important trade of the neighboring coast, or as a light to lead into the refuge harbor of the Forth."

Notwithstanding its isolated position and the difficulty of access, it was decided to accept the view of the Board of Trade. The necessary plans were prepared by the Messrs. Stevenson, and the works commenced in June, 1885, were completed and the light established by the first of December, 1886. The existing establishment consisted of a light-house tower, with accommodation for three keepers — it was necessary to provide dwellings for three more keepers with their families, and buildings for the steam and electric plant, coal-houses, etc. All these were placed near the base of the island, in order to be near the small fresh-water loch, and to save the cost of transporting the coal and of pumping the water to the top of the island, while the saving of the cost of carriage of the materials and machinery to the top of the island, and of piping and pumping machinery would more than counterbalance the original cost of the conductors.

It was originally intended to use the Brush compound wound Victoria dynamo, giving a continuous current and supplying a single automatically-fed arc-lamp of 30,000 candle-power. The Brush Company at once set to work to make such a lamp, but after numerous trials they were unable to do so, consequently recourse was had to the more expensive alternate current magneto-electric machines of De Meritens, which, though not so powerful, had given excellent re-



sults in several light-houses and at the experiments at South Foreland; they were of the L type and of the largest size hitherto constructed, weighing four-and-one-half tons each.

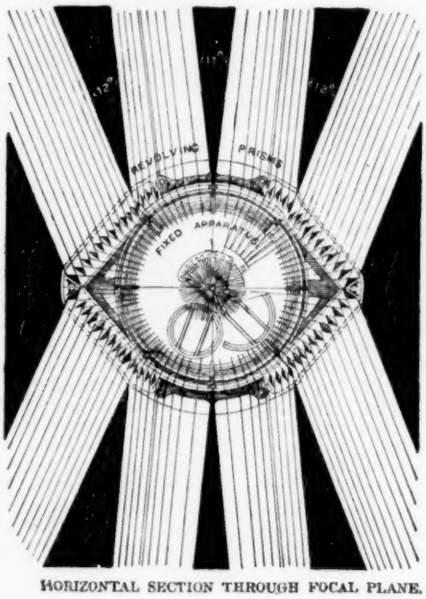
They are so arranged that one-fifth, two-fifths, three-fifths, four-fifths or the whole of the current of a machine can, at pleasure, be sent to the distributor for transmission to the lantern, the two machines can also be coupled and the full current from both be employed. The engines and boilers are in duplicate.

The conductors are copper-rods one inch in diameter, well insulated, the length is 880 feet, the loss of the total energy is twenty per cent.

[1] Continued from page 195, No. 644.

The lamps are of the Serrin-Berjot type, and the carbons are of Siemens make, and have a soft central core of pure graphite which improves their steadiness in burning; they are 1.6 inches in diameter, but two-inch carbons can be used when both machines are running. With one machine the power of the arc is estimated at 12,000 to 16,000 candles.

The dioptric apparatus (see figure showing horizontal section through focal plane) is of a novel description, the condensing principle being carried farther than in any other apparatus previously constructed. Certain sectors are darkened by diverting the light from them, and the light is thrown into adjoining sectors so as to reinforce their light. Thus the power of the light is increased in proportion as the dark arc is increased. The light gives four flashes in



HORIZONTAL SECTION THROUGH FOCAL PLANE.

quick succession every half minute; and during the bright periods the effect of this concentration of the rays is that the light radiating naturally from the focus is increased in power fifteen times in azimuth in addition to the vertical condensation, excepting, of course, the loss due to reflection and absorption.

The apparatus consists of a second-order fixed lens fifty-five inches in diameter, which operates on the rays so as to make them issue from the lens in horizontal planes.

Outside this lens there is a revolving cage of straight vertical prisms, extending the full height of the lens, or five-one-half feet, and composed of two panels on opposite sides of the centre, each operating in the horizontal plane on 180° of the light coming from the lens, in such a way as to condense the whole 180° into four flashes of 3° each — that is, 45° into 3°, with the proper intervals of darkness between them. This cage of glasswork makes one complete revolution every minute round the lens, thereby producing the characteristic of four flashes every half minute.

The resulting beam of light from this apparatus is about 3,000,000 candles when one magneto-electric machine is in use, and with both machines about 6,000,000 candles. The light has been picked-up

and recognized by sailors at forty and fifty miles off, by the flashes illuminating the clouds overhead, though the geographical range, *i. e.*, the distance which the curvature of the earth would permit the light to be seen, is only twenty-two miles.

Surprise has frequently been expressed by masters of vessels and by residents on the neighboring shores who live in view of the Isle of May light, that this light, which is so exceedingly brilliant in clear weather as to cast shadows at a distance of ten or fifteen miles, is so cut down by the fog that some go the length of believing the old oil-light (9446 candles) was better in a fog. All who have had experience with the electric-light are quite prepared for the first part of this statement, while the last, it need hardly be said, is a mistake, inasmuch as the electric-light has been proved, by experiments in both natural and artificial fog and also by observation on existing light-houses lighted by electricity, to be in all circumstances of weather the most penetrating.

Every night at 12 o'clock the lightkeepers at St. Abb's Head, twenty-two miles distant, where there is a first-order flashing light, and one of the most powerful oil-lights in the English service, observe the Isle of May light, while the keepers at the latter also observe the St. Abb's Head light. The result of five months' observation is that the Isle of May light is seen one-third oftener from St. Abb's Head than the St. Abb's Head light is seen from the Isle of May. It is perfectly true, however, that the superiority which is so apparent in clear and in rainy weather is very much reduced in hazy weather, and practically disappears in very dense fog. Looking to this fact and to the large first cost and annual maintenance, there is no doubt, that the conclusion arrived at by the Trinity House[1] is sound, that electricity should be used only for important landfall lights.

PARIS CHURCHES.[2] — VIII.

SAINTE GENEVIEVE. — (THE PANTHÉON.)

THE foundation of the abbey of Ste. Geneviève dates back to the time of Clovis. After having dispersed the Visigoths upon the plains of Vouillé, he desired to celebrate his victory by the erection of a church upon the hill which overlooked his Palais des Thermes upon the left bank of the Seine. This he dedicated to the memory of S.S. Peter and Paul and placed under the keeping of a congregation of religions. Clovis was buried there, and after his death his widow Clotilde finished the buildings. The child of Clodonier, whose eyes were put out, were also buried there, and at Clotilde's death she, too, was laid in a tomb near that of Ste. Geneviève.

Geneviève was a peasant girl of Nanterre, a little hamlet situated upon the plain over which Mont Valérien now frowns. She was born in 421 and was employed as a child in tending sheep. When about seven years of age, St. Germain, bishop of Auxerre, seeing her amongst a crowd of people who had surrounded him to receive his benediction, became aware of her predestined glory, and finding that she desired to be a handmaiden of Christ, he hung round her neck a small coin marked with the symbol of the cross and thus consecrated her to God's service. Many miracles are recorded as due to her prayers even while yet a child. But, although she was practically good and reverenced her parents, she was much persecuted by demons and men. Her arch enemy, the devil, seems to have particularly objected to her love of praying during the night, for he

[1] The Trinity House of England and the Scotch Board of Northern Lights instituted an exhaustive series of experiments at South Foreland, England, in 1884–85 to determine the relative values of oil, gas and electricity as light-house illuminants; the following is a summary of their report so far as oil and electricity are concerned:

"The electric-light, as exhibited in the A experimental tower at South Foreland, has proved to be the most powerful light under all conditions of weather, and to have the greatest penetrative power in fog.

"For the ordinary necessities of light-house illumination mineral-oil is the most suitable and economical illuminant; for salient headlands, important landfalls and places where a very powerful light is required, electricity offers the greatest advantages."

A single oil-burner, placed on the focus of a proportionately sized lens, is sufficient for the generality of cases.

This is specially the case since the introduction, on Messrs. Stevenson's suggestion, of hyper-radiant apparatus suited for use with burners of large diameter. An experimental lens of 52⅜ inches focal distance was constructed by Messrs. Barbier & Fenestre, and was fully experimented upon at the South Foreland. It proved entirely satisfactory, and since then the Light-House Board of the United States has ordered and received one of these lenses which is now in store at the United States General Light-House Depot, Tompkinsville, Staten Island, New York.

This lens is composed entirely of brass and cut-glass, and when the sun shines on it, it sparkles with all the colors of the prism, reminding one of an immense soap-bubble. Its cost was nearly $16,000.

[2] Continued from page 33, No. 630.

continually blew out her candle during her vigils in spite of her power of rekindling it through faith and prayer. This is a favorite subject of mediæval sculptors, and I remember seeing one statue of the Saint with a demon on her back holding a pair of bellows with which he is blowing out the candle in her hand. Ste. Geneviève was an early Jeanne d'Arc, and through prayer alone caused the Huns who were besieging Paris under Attila to flee. On another occasion, when the city was invested by Childeric, she took the command of some boats which were sent up the river to Troyes for succor and brought them back laden with provisions. When the city was taken Geneviève was treated with great respect by Childeric, and it was through her influence that Clovis and his wife, Clotilde, were converted to Christianity and the first Christian church was erected in Paris.

This legend of feeding the besieged Parisians is said to be the origin of the *pain bénit* of the Paris churches, a custom peculiar to the old Parisian rite and almost the only one kept up since that rite was superseded by the Roman, some few years since. This blessed bread is a large *brioche* offered by some parishioner and brought into church in procession during the offertory. It is usually piled up on a stage and decorated with flowers and lights, the whole being carried on the shoulders of acolytes. Preceded by the beadle and donor, it is taken to the altar and sprinkled with holy water; some prayers are said, the donor is presented with a pat and a kiss, and the procession then returns to the sacristry, where the cake is cut up and carried by acolytes round the church in baskets for distribution. One often sees strangers refuse it, thinking it something peculiarly Popish or sacred, but they might be sure, if it were so very holy, they would not get the chance of partaking of it. It is rather a sort of amicable meal, after the manner of the early Agapemone, but it is a pretty ceremony, and it is always refreshing to witness any little peculiarity in ritual, instead of the dull uniformity which recent Papal decrees have enforced all over Europe.

In the ninth century Ste. Geneviève became the patron of the abbey, and some of the capitals of the church of that period or a century later are now in the court of the École des Beaux-Arts. In the thirteenth century the church was rebuilt, but gradually falling into decay, it was condemned in the reign of Louis XV and demolished in 1801–07 to make way for the rue Clovis. When the crypt was destroyed a large quantity of stone coffins, medals, pottery, shields and lances of Gallo-Roman and Merovingian workmanship were found.

The reliquary of the saint was made in 1242 by a celebrated goldsmith named Bonnard. It contained one hundred and ninety-five marks of silver and seven and one-half marks of gold, and from time to time it was loaded with precious stones. Germain Pilon sculptured four female figures in wood to support it, which were the only parts saved at the Revolution; they are now in the Renaissance Museum of the Louvre. The *châsse* was melted up and the jewels sold, the whole producing only 21,000 livres. Some of the monuments of the church were saved, that of Cardinal de la Rochefoucault sculptured by Philippe Buister in 1645 being placed in the chapel of the hospital for incurable women of which he was the founder. The statue of Clovis (twelfth century) is now at St. Denis, owing to the accident of its having been replaced in the seventeenth century by a superior one in white marble, which was destroyed in 1793. The first statue, "*mangée et difforme d'antiquité*," according to Father Dubreuil, was relegated to the crypt, where it was found when the church was demolished. Another tomb, that of a chancellor of Nôtre Dame de Noyon who died in 1350, is now in the École des Beaux-Arts.

Some of the conventual buildings remain and form part of the Lycée Henri IV. The tower is Romanesque at the base and Pointed at the upper stories—fourteenth and fifteenth century respectively. The cloisters and refectory form part of the school buildings, but they have been much modernized. The refectory is an elegant building of the thirteenth century and now serves as the school chapel. In the sacristry is a large stone statue of the patroness (thirteenth century) which formerly formed part of the central pillar of the principal doorway; it represents her with a demon on one shoulder blowing out her candle and an angel on the other relighting it. What was formerly the library is a series of galleries upon the plan of a cross, with a cupola at the intersections. It is no longer used for this purpose, all the books having been placed in the new building on the other side of the square.

The modern church was built by Soufflot in 1764 at the instigation of Mme. de Pompadour; and since the Revolution it has been a constant bone of contention between the different political parties. At one time dedicated in gratitude "*aux Grands Hommes*," it has at another been under the patronage of Ste. Geneviève. Sometimes a mere show building, at others it has had its altars and its canons to serve at them, and has been the scene of enthusiastic processionings, and pilgrimages; at the present moment it enjoys secularity, which makes most of its internal decoration out of all harmony with its use as a mere burial-place for distinguished Frenchmen. Smaller than St. Paul's, London, it is more perfect in its Classicism. It is built on the plan of a Greek cross, with a dome over the intersection. Its decoration has been almost as hopeless as that of St. Paul's, and has fluctuated between the different schools, as much as the uses of the building have changed.

Commenced by Baron Gros and Gérard, in the false, pretentious style of the first Empire, the dome is as glaring a piece of bad taste as the apse of the Madeleine. For some years the decoration of the building was stopped, but within the last decade it has made another start with Puvis de Chavannes's "Life of Ste. Geneviève." The direct opposite of Cabanels's "Life of St. Louis," pictures which are hard and dry and crude, M. Puvis de Chavannes's are vague and foggy. His figures are clumsy, thick of ankle, neck and wrist, but otherwise attenuated to the last degree; and were it not that the far-off people are smaller than those near the spectator, no one would know that they are on different planes, for of aerial perspective, there is none. Yet there is a certain purity of sentiment which is meant to be Giottesque (without, however, the old master's color and clear outline), and a great charm about the landscape backgrounds; and a hen and chickens picking up some grain are excellently painted. The pictures by Maillot are equally wanting in aerial perspective, but not from fogginess—quite the contrary; *they* err on the side of equal brilliancy. They represent the citizens of Paris carrying the Saint's *châsse* to Nôtre Dame in the reign of Charles VIII. A crowd of people descend the "mountain" and cross a peculiar zigzag wooden bridge with no side-rails. The horizon is close to the top of the frame, so that the *châsse* appears to be falling off the shoulders of the men who carry it, and the people seem stepping down a steep incline. The color is bright and the costumes picturesque, and the whole has an early Flemish appearance; so early is the style that it looks as odd as a series of Van Eycks or Van der Weydens would in an eighteenth century building—utterly incongruous. Imagine Raphael or Michael Angelo decorating St. Peter's, Rome, in the manner of Giotto, Botticelli or Ghirlandajo. Totally different, but equally out of keeping with the building, are the pictures of J. P. Laurens, of incidents in the life of the Saint, or rather, miracles worked by her. Splendidly drawn are they, and full of dramatic power, as is all Laurens's work, but somewhat black, as is usual with this artist. Then we have some of M. Emile Levy's, who is never of much value except in portrait-painting, and in that only now and then. Here at the Panthéon, he is more than usually woolly and wanting in vigor. Directly opposed to them are M. Bonnat's masculine, though somewhat black, works. Last, but not least, charming in design, refined but not weak and quite in harmony with the style of the building are the mosaics of M. Hebert, which are amongst the best work that I have seen by him; for these are exempt from his faults of affectation. On the whole, the decoration of the Panthéon gives no encouragement to other nations who want great masses of wall in large buildings, covered with pictures. The art seems to be lost; for if the greatest of the French painters have, from one reason and another, failed, who is likely to succeed? No school is so dramatic as the French, even in these days of Naturalism and Impressionism and other cant-isms; and yet these wall-paintings fail to impress us in the same way as we are impressed, say, by the Benozzo Gozzoli frescos of the Riccardi Palace in Florence. I fear it is the spirit which is wanting, the religious sentiment. We can draw better and paint better and compose better—but the sentiment is lacking; thus our pictorial decorations of large buildings are failures, whether we turn to Paris or Munich, or Berlin or London—perhaps the worst are the dismal, cold, maudlin Nibelungen-lied manufactures at Munich. The French are Raphaelesque compared to those poor German efforts.

S. Beale.

The Illustrations

[Contributors are requested to send with their drawings full and adequate descriptions of the buildings, including a statement of cost.]

HOUSE OF C. F. ADAMS, ESQ., BOSTON, MASS. MESSRS. PEABODY & STEARNS, ARCHITECTS, BOSTON, MASS.

[Gelatine print, issued only with the Imperial Edition.]

A HELIO-CHROME print of the doorway of this house was published in our issue for April 21.

TOWN-HALL AND LIBRARY, WINCHESTER, MASS. MESSRS. RAND & TAYLOR, ARCHITECTS, BOSTON, MASS.

COST of building complete $50,000. Material selected, water-struck hard brick and Longmeadow-stone trimmings. The interior construction is, generally, what is known as "mill construction"—hard pine beams and plank floors, ceilings plastered between the beams on the planking. Considerable "terra-cotta lumber" has been introduced for partitions and as brick wall linings. The interior finish is entirely of yellow pine. The seating capacity of the hall is thirteen hundred. The following are the contractors:—For foundation work, J. M. Ellis, Woburn; for mason work, Gooch & Pray, Boston; carpentry work, Ivory F. Tarbox, Malden; heating and ventilation, Gardner C. Hawkins, Boston.

COMPETITIVE DESIGN FOR THE ELLIOT CHURCH AT NEWTON, MASS. MESSRS. HARTWELL & RICHARDSON, ARCHITECTS, BOSTON, MASS.

HOUSE OF H. E. BREWSTER, ESQ., UTICA, N. Y. MR. W. H. SYMONDS, ARCHITECT, UTICA, N. Y.

THE house is built of red brick with brownstone finish.

HOUSE AT LITTLE HARBOR, N. H. MESSRS. LONGFELLOW, ALDEN & HARLOW, ARCHITECTS, BOSTON, MASS.

"TWIN OAKS," — HOUSE OF GARDNER G. HUBBARD, ESQ., NEAR WASHINGTON, D. C. MESSRS. ALLEN & KENWAY, ARCHITECTS, BOSTON, MASS.

NOTE: — Too late for publication we learned that the architects of the house of J. C. Abbott, Esq., published in our last issue, were Messrs. Hutchesson & Steele of Montreal.

VANDALISM IN MODERN ROME.

House at Dol, Brittany.

IN an extensive experience of cities in the old world and in the new, says the correspondent of the *Times* in Rome, I am not aware of having been brought into contact with anything on the whole worse in the way of municipal government than that of Rome at this present time. Whether it be the policing, the state of the roads, the sanitary regulations, the little ordinances which pertain to the comeliness of the city, or the common decencies of external deportment, the absolute contempt that is shown for the authority of the municipality is something which in England we see only in the pantomime. What the city authorities seem most to consider is what grandiose plans for the future they shall inaugurate; and, having permitted and encouraged speculations which have led to the most colossal private bankruptcy of the epoch, and plunged the city into debts that are beginning to make life here difficult for people of moderate means, they are planning for an extension of operations which shall compromise the financial future of the city. There seems to be no practical common sense in the anticipations of the authorities; they have seen the period succeeding the transfer of the capital to Rome followed by an enormous influx of population — employés and speculators, the followers and hangers-on of a Court and a Government; and the momentary, and for the moment exhaustive, demand for quarters consequent on the increase has started an immense building *furore* which has ruined Rome æsthetically, the speculators financially, and profoundly compromised the future of the city. For the speculators and their victims we will waste no tears; for the disfigurement of the finest city site the world can show regrets are useless; and if the Romans are indifferent to the results of the horrible taste which presides over the renovation of their city we have no business to do more than record a protest and, when things are too bad, stay away.

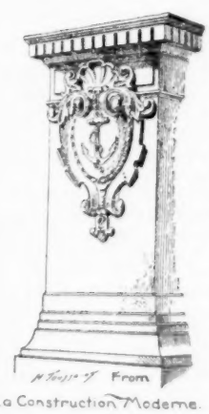
But a warning against the present tendencies may be of use to English capitalists, if one were needed after the experience of Florence. A friend who has recently had the curiosity to make the tour of the new and renovated quarters estimates that there is now built and unoccupied and in course of construction accommodation for 100,000 people, and this enormous addition has been prepared on the anticipation of an increase of the population on the ratio of the past few years. But when the Court, the Government in its various branches, the army headquarters, and the parasitical industries that spring up around a Court have been enrolled and completed, the influx must return to a normal rate, which, for a city which has only a population of 300,000, is a small affair compared with that of Rome during the years which provoked the past speculation. Rome has no manufactures nor facility for them, no trade and no port — it can only have the importance of the capital city of a nation whose industries are still in the future, and which, as far as their roots exist, seem to be alien to Rome.

The wisdom which has presided over the works in Rome has been characterized by the Roman journals in terms more severe than I care to use. The waste of money from want of general plan and common prevision is beyond belief, except by those who are eye-witnesses, and, in spite of all financial difficulties and an already visible check to the growth of the city, the colossal plans grow as if the city were destined to cover the Campagna as in the days of the Roman Empire. And, more or less, the extensions involve the destruction of what remains of what made Rome interesting to the visitor, of which so much has gone already, and which was the productive capital of the city. The magnificent Ludovisi gardens, the pride of the Rome of the Popes, was offered to the Roman municipality for 3,000,000 francs. They are now as building lots worth ten times that sum, and the city has no drive within the walls. There was in the old days a zone of garden and villa grounds extending nearly round the inhabited portion of the city, of which now but little remains, and this is mostly marked out for the expropriation, road-making, and barrack-building which has buried the rest. And the next step announced is one which touches the English public in a peculiar way, for it contemplates the practical destruction of the beautiful gardens of the English Embassy, the only really fine example remaining of the gardens of the old Papal days; for its superb ilex avenue, the finest in some ways that I know, must have been planted centuries ago. It is flanked by a portion of the Aurelian wall along which the taste and care of the ambassadors have provided a series of natural pictures, which, added to the shrubberies, make it the prettiest bit of nature within the walls. The last extension of the plan for the uglification of Rome provides for the practical abolition of this bit of old Rome, by the expropriation of the ground for a drive inside the walls from the Pretorian camp to the Villa Ludovisi building-lots, useless as a means of communication, for there are streets directly communicating, and superfluous as a drive, for there is one laid out 40 metres wide on the outside of the wall over the same space, and the only effect will be to leave the wall between two roads and compel the Embassy to change its quarters.

And the expense of this new freak in changing the plan will be counted in millions of francs, for the portion involved in the Embassy grounds alone will amount to about half a million, the land there being worth 150 francs the square metre. The Embassy has protested, but it is clear that, unless the Italian Government veto the project, the protest will not be attended to any more than if it were made by the King of Cocaigne. There is no excuse for the expropriation, for the Embassy lies at the very end of the proposed drive, which actually terminates with it and has no exit beyond. The secret of the expedient is probably to make the place untenable to the Embassy, and so throw the entire gardens on the market for the speculators to cut up and build on.

And all the attacks and exposures of the Roman and foreign press will no more reach the soulless municipality than the flutterings of the dirty linen out of the windows of the houses on the streets, in violation of the law. It has spent the loan of 130,000,000 francs, and has not done half the work it was calculated to cover, and which an economical adminstration would have made it cover; but it goes on in the same reckless way, and will go on until the Prefecture of the Tiber supersedes it, for the salvation of Rome from further ruin. Even the financial disasters of the past few months do not seem to check it, and a report that an English company is going to take up the completion of the suspended constructions is welcomed as a wind to keep up the drift of affairs. There is no doubt that, to a limited extent, capital might be employed in finishing a few of them as comfortable apartment houses, but the greater part of them are too flimsy to serve for anything but cheap lodgings. They are mushroom products of a mushroom administration.

TECHNICAL EDUCATION IN FRANCE.



From La Construction Moderne.

THE sums annually expended for public instruction in France give perhaps an approximate idea of the great sacrifices which are made by the nation for the intellectual advancement of the growing generation. The present general expense for public instruction in France is stated to me to be above 300,000,000 francs. To this sum the Minister of Public Instruction and Fine Art contributes annually 130,000,000 francs, while the rest is contributed by municipal and township funds.

In this is not included what is contributed by the Ministers of Commerce and of War for special training-schools coming under their heading. An outline of the great expense and the immense growth of the school system of Paris I have given in another part of my report. I will here only repeat that the sum expended there for maintenance of municipal free schools is in the neighborhood of 30,000,000 francs, about five times the amount spent in the last year of the Empire.

The burdens borne for this great object of public education in the sense and manner in which it is carried through in France, will, however, in their natural sequence bring out results fully compensatory of the outlay. The system of education is eminently practical and outspoken in its aim; viz., to fill French industry with a trained set of workmen and to diffuse them into all branches of national activity, manufacture and agriculture. Those who suppose that France has ceased to be a formidable opponent in the peaceful contest of industry and commerce seem to judge from passing conditions and not to take into consideration the great evolution taking place

in all departments of mental activity, which in due time will prove to be of far greater moment in determining the future position of France than the sanguinary revolutions and wars which have taken place during the century.

An institution of great importance in the general school system of France is the General Council of Education of France (Conseil supérieur de l'instruction publique), composed of sixty-four members and having its seat in Paris. About three-fourths of the members of the council are elected by the inspectors and schools of the departments and the great educational institutions. The President of the Republic appoints the other members and the Minister of Education is president of the council. The departments take their representatives frequently from the ranks of leading scientists and professors of Paris. This council works out the general plan of education for the different schools and directs the various improvements of the University of France (*i. e.*, the whole system of public instruction) necessary for the conducting of the schools, its work being submitted for approval to the ministers. Kindergarten work, manual training, and handiwork, designing, and all other branches of the curriculum are worked out by the council. It invites experts and industrials to assist in working out plans of instruction, as also the technical part of the programme of the school, leaving, however, sufficient latitude for provincial and local specialties. With due regard to local necessities and differences it is expected that the plan worked out by the General Council shall be followed in its general lines by the provincial school authorities. The Council has caused to be adopted now in all the provincial towns the plan of having the manual-labor classes of the primary schools make toys for the children of the kindergarten, to give thereby direction to the labor of the boys and at the same time cover the objection of the municipal councils to the extra cost entailed by the purchase of the objects.

The school systems of other nations may be as complete in their educational facilities, but nowhere, excepting in Switzerland and America, is free instruction so systematically carried through as in France. The same classes and kinds of schools may exist here or there, but nowhere are industrial education and art education made, so to speak, an organic part of the whole system of public instruction.

Manual training, coupled with object teaching, begins at the very bottom of the school system. For the laws, regulations and leading ideas governing manual-labor training, I refer to the part of my report treating on the subject. From the kindergarten schools, it runs through the primary, grammar and high schools and is diffused now all over France. Apprentice-schools for special trades are run now very successfully in Paris and other large towns. It is expected that the theoretical and practical instruction given in them will necessarily produce a superior class of workmen, overseers and superintendents of factories. The success of many of these schools in the results obtained has given sufficient impetus to continuous efforts and has led to the creation of new ones in localities where their need is felt.

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Higher technical education is principally in charge of the State. The higher branches of learning may perhaps not be carried to so high a state of perfection as in the polytechnical schools and universities of Germany and Switzerland. Nor have I found special trade schools able to vie with the weaving-school at Crefeld, for instance. Intermediate training, however, seems to me to be carried through in France more with an eye to greater diffusion among the masses than I found in any other country, and certainly workshop practice and machine-shop work and especially practical instruction in machine building, etc., are now practised to the extent in which it is taken up in France.

The general aim of the national government in establishing this system of education and the task reserved to itself can be summed up in the following rules and principles guiding its action:

1. To accustom the child to know the tools, to understand their use and to amuse him as much as possible with sketchings, outlinings, modelling and hand work.

2. To assist in the creation of apprentice-schools in industrial centres to the end of giving to the pupils who follow the instruction dexterity in the use of the hand and other corresponding knowledge, to prepare them for entering the *Ecole des Arts et Métiers* or manufacturing establishments.

3. To contribute to the expense of tools and machinery used in the superior, primary and other schools preparing for the technical schools.

4. To raise the standard of admission to the *Ecole des Arts et Métiers* by the greater efficiency given by these secondary primary schools with workshop practice connected.

5. To assist the superior local schools in the support of specially determined industries of the district.

6. To bring the principal schools to the highest degree of technical and scientific perfection by adding new courses of complimentary exercises of special application and to support and encourage, as much as possible, industrial societies who maintain special public courses in the different industrial centres of the country.

A subject not less important in technical education than the system described in the first part of my report, treating of instruction calculated to develop the mental faculties by theoretical and practical instruction in all operations of industry, is the other equally-important branch, *Art Education*. Here, also, France has gone to work with greater thoroughness and systematic consistency than any of its neighbors. In most branches of industry, especially where taste is required to give special value to the fabric or article manufactured, the positions are frequently and entirely reversed. It will be understood how the selling value of an article is enhanced, without any additional expenditure of physical force employed in its production, by the more finished character given it through what may be called for want of a better term, the artistic treatment. This means the whole æsthetic part, the part affecting the eye — coloring, design, form, finish, etc. — as distinct from the mechanical part, covered by a given quantity of labor expended in the finishing or turning of it. Many an article superior in wearing quality, and consequently of higher intrinsic value, is rejected in competition with an inferior one, more pleasing to the eye, however, in virtue of higher skill and taste employed in its ornamentation, coloring, shaping, etc. France has always enjoyed a kind of monopoly in such branches as would be covered by this phase of industrial art, for which her work-people have a natural predisposition, a quality which finds undisputed acknowledgment elsewhere. Of late, however, inroads have been made by neighboring nations into what France used to consider her special domain, mainly by the aid of newly-created industrial-art schools. In consequence of this new competition, much attention is now paid by France to her own art schools. The necessity is felt of bringing up a better-equipped generation. It is held, with great justice, that a greater diffusion of art knowledge through drawing, painting, sculpture and modelling schools will supply industrial art with a stock of trained workmen, who, with the advantages derived from their natural predisposition, will thereby enable French industries to keep up a successful competition in the world's markets.

Industrial art schools are intended to give expression to this aim. But art in general is by no means divided by France into industrial art and high art as in other countries. The Academy of Fine Art and some of the provincial high art schools are only the highest classes of art training of which the other — national industrial art and drawing schools — are feeders. . . .

With all this great progress made in technical and art schools in France, I have always met with the answer, when expressing my high appreciation of what had been done in this direction in so short a time, "*Oui, si vous allez en Allemagne, là vous verrez.*" ("Yes, but if you come to Germany there you will see.") True, in Germany in many directions they are ahead of France; in others, however, by far not so well developed, and I have frequently met with similar remarks in German schools, in regard to France, as in France in regard to their neighbors on the other side of the Rhine. Many German industrial art directors told me that still most of their best ideas came from France, and in this connection it is well and necessary that I should mention another institution of France which gives full value and weight to these expressions.

In Paris there are from fifty to seventy-five studios of designers for industrial art. They cover almost every branch of artistic and decorative industrial pursuit. These artistic designers are men of great skill and taste in special branches of art industry. They usually employ a number of assistants, graduates from art schools and industrial schools of design, and work for all branches of industry, not alone for Paris but for all France. They receive orders from Germany, England and all the other European countries, and not unfrequently from America. These designers, of course, acquire special skill in their branches, devoting their whole time and energy to their special subjects and ransacking all the libraries and artistic productions of present and bygone days, utilizing them for the new styles and fashions they bring out. To a large extent they are the makers of fashions and the whole world pays them tribute. Manufacturers come to them for new ideas, and at the same time give them practical points as to what may be wanted in the coming seasons. For generations, perhaps, the print-works of Mulhouse have been at the head of the industry of calico-printing. From years far back these Mulhouse prints bore the highest distinction for beauty, coloring and design. The same high distinctions they have preserved up to the present day. But whereas they used to employ their own designers in former times, I was told at the time of my visit by the great house of Dolfus, Meig & Co., that they had given up designing in Mulhouse entirely, and now get all their designs made in Paris by the specialists of these studios. Manchester, I was told in Paris, follows to a large extent the same course, as well as American print-works. The same can be said of kindred industries. The manufacturers of the City of Lyons largely follow the same line of procedure. The larger firms, however, keep their own staff of designers upon their own premises, they being more jealous of styles going out their hands into the possession of other manufacturers, unless they keep their own private designers. Some of these employ as many as ten or twenty artists in this way. A great many of the Lyons manufacturers, however, buy designs from designers who have studios of their own, especially for the trade, and I am told there are now forty of such independent special designers, working with assistants in their own studios, in Lyons. When the season is near, they usually call upon the manufacturers, who are their usual customers, and show them rough sketches of new designs and offer them with the right of their exclusive use. The manufacturers then select those likely to draw most when executed. The manufacturers, as a rule, give beforehand a broad hint to the designers of what may be acceptable for the season. On the other hand silk-buyers very often bring their own designs to Lyons from Parisian artists or give

the silk-merchants[1] (manufacturers) of Lyons a general idea of what is wanted in Paris. In this case the manufacturers will at once call in Lyonese designers and have them carry out these ideas. These Lyonese designers derive great help and inspiration from the industrial museum of Lyons, of which I have given a full description in this report. As a matter of course these designers study nature with a very keen eye, the flowers, leaves, etc., of the field and garden are full of lessons to them. All these varied influences and means are employed by them with consumate skill, and truly no silk centre of Europe is able to bring out anything approaching the beauty of the manufacturers of Lyons in silk. It is apparent and must be clear to every thinking mind that art schools are great feeders of industrial and decorative art; but that decorative art and industrial art have been anterior to the schools; and that many another thing is required for prosperous existence of art industries, besides art schools, is equally clear. Without the constant absorption of new and varied impressions, the mind of graduates of art schools would become dry and barren after the effects of art teaching had been consumed in the pursuit of several years' work.

Art museums, and prominently-industrial art museums, are perhaps of greater value than any other educating influence in later life. Of the latter category France is not as well provided, perhaps, as Germany. Efforts are made, however, to collect the scattered treasures and bring them to bear upon local industries all over France. A collection like the one of the Industrial Museum of Lyons, its wealth of direct applications, is not found anywhere else. This museum is in itself an object library, a living history of textile art, keeping always before the designer, the colorist, the workman and the manufacturer possibilities extending into the highest sphere of art, where the past, in language not to be misunderstood, invites the present to like efforts to reach like greatness and perfection. Among the treasures stored in these museums and art libraries, with constant intercourse between artist and artist, designers for industrial art live, so to speak, surrounded by an atmosphere of art. Industrial art education is therefore something vastly more extended than single art schools alone can give. Art schools will not prosper unless there are industries which can utilize results of teaching and training; nor can artistic industries obtain high scope and prosperity without such means of artistic training and assistance as are indicated in my report. Specialists devoting their time to industrial art designing naturally have gone through courses of study in one art school or another. But life, after their first training has furnished them with knowledge and skill, the active lessons of life will have to do the rest.

It seems to me that these industrial artists are very liberally paid in France, and far more so than in Germany. It is important to understand that a good artistic design makes often the chief value of industrial reproductions. These, copied in unlimited quantities, make the higher cost of a good model of minor importance, considering the higher selling value obtained thereby.

One of the highest artistic industrial establishments — that of Barbedienne — in Paris employs some of the greatest artists and sculptors for its models for bronze castings and other objects of art. I am told by the manager of the factory that they pay to the artist twenty per cent of the selling value of all articles cast and sold from the artist's models. — *J. Schoenhof, U. S. Consul at Tunstall.*

THE SIGNIFICANCE OF A SANITARY ANALYSIS OF WATER.

A Doorway in Genoa.

IN order to understand what importance, if any, is to be attached to a chemical analysis of water, it is necessary to briefly survey the history of the latter from the time it rises as vapor, under the influence of solar rays, from the bosom of the great ocean, until descending upon the Continent as rain, it returns to its source, again to be distilled in endless repetition.

The invisible vapor carried by air-currents inland, at its first precipitation as cloud, commences to absorb the solid and gaseous impurities of the atmosphere; and long before the raindrops reach the earth, they receive appreciable quantities of ammonia, ammonium nitrite, carbonic acid, floating mineral and organic matter, as well as the germs of microscopic animal and vegetable life. To speak accurately, not a drop of water can be found in the natural world which is pure. Fortunately, the substances washed from the air are, with rare exceptions, innocuous. Some of them are indispensable to the life of the globe. Of first importance are ammonia and other nitrogen compounds. Although nitrogen forms four-fifths by bulk of the atmosphere, so inert and apathetic is it in its chemical relations that it is only with extreme difficulty that we are able to force it into combination with other elements. Nitrogen in combination is an essential constituent of proteid matter, with which life in both animals and plants is more immediately associated. Animals derive combined nitrogen from plants; plants derive it from the minute traces contained in the air. The combined nitrogen in the air, it is supposed, is generated by a mysteriously active form of oxygen called ozone. So parsimonious is nature in its supply of this indispensable plant-food, that, while millions of tons of free nitrogen cover the fields, to eke out the supply of combined nitrogen brought down by the rain, the latter form of nitrogen, under one name or another, must be bought by the thrifty agriculturist at about fifteen cents per pound. It brings us now near to our subject, as will be seen below, to observe that the combined nitrogen scantily present in rain-water is accumulated in plants, and in a still greater degree in the animals which feed upon them, and is found in the excreta of the latter, without much loss, in great abundance.

Animal waste is rich in nitrogen, and any considerable accumulation of combined nitrogen in nature is the product of animal waste.

An analysis of sewage or of water contaminated by it should reveal, therefore, an excess of combined nitrogen.

Rain-water on its way to the sea may flow over the surface of the ground, conveying, in suspension and solution, both organic and mineral matter to the nearest river, or it may slowly percolate through earth; and during its long sojourn, aided by the solvent power of carbonic acid, receive in richer proportion than in the other case mineral matter. As a general rule, river-water is soft, but abounds in organic matter. Spring-water is hard, and if its gathering ground is at a distance from the habitations of men, it is nearly free from organic matter.

Well, spring and river-waters commonly contain carbonates, sulphates and chlorides of such bases as calcium, magnesium, iron, potassium and sodium.

So far we have encountered no contamination injurious to life or health in this enumeration; and, going farther, we assert that *there is no proof that human or other filth largely diluted in water-supplies is of itself in the slightest degree unwholesome.* In some instances this sewage contamination promotes the growth in still waters of minute forms of life which under the microscope appear quite alarming; but the history of most of them is as well understood as that of the cabbage, and their physiological action, when absorbed into the system, even less momentous. If any one is too fastidious to permit these interesting creatures to "play tag" in his stomach, it is only needful that the water be boiled and filtered. After this survey, it is time to admit that, beyond the identification of lead, arsenic and a few other toxic substances that do not generally come within the scope of a sanitary water analysis, *chemistry alone is to-day incapable of declaring whether a given water-supply is or is not injurious to life.*

Of what use, then, is water analysis for sanitary purposes? We reply, much, through the indirect connection that exists between the organic matter found and the organized matter which, though unseen, produces disease.

Unfortunately, it not unfrequently happens that a large or small community is smitten with that terrible scourge, the typhoid fever, which without difficulty is proved to have originated in the water-supply.

Chemical analysis reveals no unusual constituent; still, the water is deadly. This is not the place to recite the argument, but authorities agree that the only rational explanation of the phenomenon is the germ theory.

The germ is a minute plant which grows at the expense of its host, and then escapes to fasten upon other victims.

The excreta from some previous sufferer have been carelessly disposed of, and from vault or cesspool found the way, over or below ground, to the well or river which supplies the community. After the usual period of incubation, under favoring conditions it vastly multiplies, and asserts itself by a reproduction of the fever.

It might then appear that the examination of drinking-water should be relegated to the biologist, and conducted by means of a microscope rather than a test-tube; but the mistakes made by the great apostles of microscope cultures, Koch and Pasteur, prove that such a method is as yet too delicate to be practicable.

The object of a chemical analysis is to point out the danger, not which exists, but which possibly exists, whenever drains or cesspools communicate directly or indirectly with well or stream. Drinking-water should be beyond reproach; and as the germs of zymotic or filth diseases naturally would travel by the same routes as the waste water of dwellings, it is sufficient usually to prove the safety of any given water by proving chemically the absence of those materials which are not, indeed, peculiar to sewage, but which exist there in the greatest abundance. The chemist determines for this purpose the amount of free ammonia which exists in rain-water, as we have seen, but only to the extent of about 0.24 parts in one million, and which in much larger quantities indicates the recent addition of putrid animal matter. Again: there is determined the organic nitrogen or "albuminoid" ammonia, which should not exceed, under ordinary circumstances, 0.2 parts, and in large amounts proves direct pollution.

[1] I use the term "merchant" here in preference to that of "manufacturer." Silk manufacture in Lyons is yet conducted largely on the old system. Fully so in the better grades, where artistic skill and taste are most prominently employed. The procedure is a very plain and simple one, and offers great advantages to the merchant-manufacturer. He, after obtaining his orders, buys his tram and organzine. He then gives it to the dyer to be dyed in proportionate quanties of shade and color. The so dyed material is then distributed among the weavers in their homes, and the "manufacturer" has no other part to perform than the examining, folding and shipping of the finished silk. Even the examining and folding are taken out of his hands by special finishers and "appreteurs" (dressers). I intend to dwell more fully on this subject in a later report on "Comparative Industrial Conditions" under which manufacturing industries are conducted in different countries.

As the sewage is eventually exposed to oxidation, it may lose all of the ammonia and albuminoid ammonia; but the results of analysis still disclose them as nitrates or nitrites. These may in turn be destroyed; but there will still remain, as an indestructible indicator of previous contamination, an inordinate quantity of chlorine from the salt consumed by man. In most cases the soil contributes only traces of chlorine. In some instances the total solid matter and the total organic matter suggest important conclusions.

It does not appear that a water-supply is freed wholly from malignant germs by filtration or aeration; and so long as evidence of animal contamination continues, it remains under suspicion.

Having made all possible tests in the laboratory, the chemist's opinion as to the relative safety of different samples presented may be as wide of the truth as a clairvoyant's unless he is permitted personally to inspect their sources or otherwise to know their history.

A proper interpretation is still a difficult matter, and a greater certainty by the microscopic identification of germs in ordinary water examinations is greatly to be desired. — *Henry Carmichael, Ph.D., in the Popular Science News.*

BOOKS AND PAPERS.

A PALE pea-green cover with a little touch of gold, and inside some excellent and attractive typographical work, go very far to give a book value in the eyes of the amateur who is seeking suggestions on the dubious subject of interior decorations, and when there is added a number of valuable illustrations and between fifty and sixty pages of sound advice on such subjects as the hall, the staircase, the library, the parlor, the dining-room, the studio and the bed-rooms, the volume can be said to be of considerable worth, not only to the amateur, who is influenced first of all by what pleases his eye and appeals to his intellectual enjoyment, but also to the more discriminating and captious architect, who is not content with feasting his eye on good printing or clever drawings, but seeks the sanction of his reasoning powers before pronouncing a book on the subject of interior decoration to be worthy a place in his library.

Such is a recent work [1] prepared conjointly by Messrs. Brunner and Tryon. It is no discredit to the book to describe it as being written for amateurs. The preface tells us that the subject-matter was first published as a serial in *Building*. We might expect from this fact that the book would be more professional in its nature, but doubtless Messrs. Brunner and Tryon are wise in not undertaking the invidious task of writing on such a subject for architects, who are the most uncertain of critics and the most difficult to suit, especially in regard to topics about which there is so much room for variations of opinion and for personal feeling as interior decoration.

The book may properly be considered as a sequence to Eastlake, or more lately to Dresser and Clarence Cook. It has an advantage, however, possessed by none of the works of the other writers in that Messrs. Brunner and Tryon are both practical architects and are able to avoid many of the vagaries and inconsistencies which are so apt to creep into the work of an amateur or even an artist who undertakes to deal with topics of an architectural character. We would be almost inclined to paraphrase Bunthorne's criticism of his own poem in *Patience* and say that there is not a word in this volume which is calculated to bring the blush of shame to the cheek of an architect whose client has been an industrious reader of this work. It is consistent throughout and so far as it aims to be professional it is fair without being sentimental, and the advice given is always safe. The authors never neglect an opportunity to remind their readers that after all an amateur is but an amateur and is, therefore, inferior to that superb creature, the architect, who is supposed to tell him what he should admire and inform him how it should be created, as well as what should be avoided and what is not to be indulged in.

So many architects have dealt with those uncomfortable beings who know exactly what they want only they cannot draw it, that for future emergencies it might be well to quote the author's words. "Without understanding genuine appreciation is impossible; without study understanding is impossible, but even with the powers of genuine appreciation, when one can enjoy, select and intelligently criticise, he may still be unable to produce, except in an experimental manner, for beside the cultivated taste, systematic training is necessary to enable one to turn artistic longings into the practical language of the decorator."

The authors acknowledge the fact that architects are often charged with being afraid of color and the fact that when buildings leave the architect's hands the plaster walls often remain untinted, is cited as proof of the assertion. They rather lamely explain the reason for this by saying that it is often better to wait until the building has settled before the building is decorated. We do not remember that we have ever heard just such an excuse for not attending to this very important feature of a building. It is, however, a very good and plausible one, and the next time we happen to be overdriven with work at the office and are too busy to give the decorator any tints for the wall or to pick out wall-papers, we will refer to this book and say that we are waiting for the building to settle.

Messrs. Brunner and Tryon make a good hit at the way in which the architect's work is sometimes brought to naught by the client after the building is all finished and decorated. "Certainly a dining-room designed strictly in the style of François I or a parlor in the manner of Louis Quinze or of the Empire may be a charming apartment, but after all our attention to detail in design we will put Turkish rugs on the floor, Japanese vases on the shelves, and probably modern stained-glass in the windows, and we ourselves, in our nineteenth-century costumes, will be anachronisms."

The authors present the other extreme of style by telling of a man who bought a rug in Cairo, and, returning to his home, took the rug to his architect and said to him: "About this rug — my special and most high-prized favorite — I desire a house and a house, too, that shall in all its features do homage to the rug for which it is built." The story goes that the house was built and dazzled all beholders by the splendor that was born of such Oriental beauty.

Altogether, the book is a decided addition to the literature of its kind. It is not architectural in as far as it is intended for architects, but it is sure to be a good adjunct to the labors of the architect inasmuch as it will tend to elevate the taste and improve the perceptions of those who read. The illustrations, mostly drawn by Mr. Brunner, are excellent both in design and rendering, and the volume has our hearty approval.

A Baltimore lawyer, Mr. A. Parlett Lloyd, has had the happy idea of bringing together, in a volume [2] of moderate size, the legal points relating to buildings which cause most trouble to those interested in construction and to the gentlemen of the legal profession who represent them in the courts. It is notorious among architects and builders that lawyers are, as a rule, profoundly, and to them, ludicrously ignorant of the simplest matters of construction. The author of the book before us himself says that "many instances could be cited where legal lights have unintentionally transformed proper contracts into faulty ones, leading to legal complications and the usual consequences thereof," and although he makes no pretensions to instruct his fellows in the art of building, he at least calls their attention to the most important of the conditions under which construction is carried on.

Beginning with a definition of building agreements, Mr. Lloyd warns his readers that "great care should always be exercised in the preparation of these contracts" on account of the multitude of contingencies and technicalities to be provided for, and gives two or three model forms of contract in an appendix suited to various circumstances. The first of these models is borrowed from Carey's Forms and is substantially the same as that in use by many architects in this country; the second, in which a church building-committee is a party, is taken from Lord Grimthorpe's "*Book on Building*," and the third is also from an English work, Emden's "*Precedents of Building Contracts*." All the forms are good. The English models had no arbitration clause, Lord Grimthorpe, as is well known, objecting to arbitrations, and Mr. Emden apparently agreeing with him. The American model contains the arbitration clause in the usual form, but Mr. Lloyd refers in a note to a preceding chapter, where he says that "a clause in a building contract providing for arbitration in case of dispute is generably objectionable for the reason that the architect is the natural and proper arbitrator and in every way competent to decide."

So far we have nothing but commendation to bestow on the book. The contract forms given are perhaps a little long-winded and Lord Grimthorpe's never seemed to us to be quite seriously intended, but it is all the more useful, perhaps, for differing enough from the ordinary models to set those who read it to thinking about the reasons for the variation. In Chapter II, however, we trace Lord Grimthorpe's influence, as an architectural historian would say, in a manner not quite so unobjectionable. This chapter, which is a short one, treats of "Architects and Superintendents," and displays, together with some valuable information, a good deal of that curious incapacity for comprehending an architect's position which seems natural to the legal mind, spiced with a strong flavor of the intentional representation with which architects are treated by Lord Grimthorpe, whose book is, indeed, gravely cited on various points. The most amusing instance of this is to be found in the second paragraph, where we are told that "it has been held in England that the contractor shall build according to the plans for the price agreed upon, but the architect may order any additions or alterations that he pleases, either before or after any of the work is done, without consulting the employer, and even though the latter may object to the alterations, he shall pay for them, and shall also pay the architect a further percentage for designing the same." Thereupon Mr. Lloyd innocently remarks that "such a rule, establishing, as it does, an arbitrary despotism for architects, has not been upheld in this country." The idea of an architect being an "arbitrary despot" over anybody will be novel to most members of the profession, and it ought not to be necessary to point out to a lawyer that if any such "rule" has been upheld anywhere except in Lord Grimthorpe's fertile imagination, it must have been established by the contract

[1] "*Interior Decoration*," by Arnold W. Brunner and Thomas Tryon, architects. With 65 illustrations. New York: Wm. T. Comstock. Price, $3.00, post free to any part of the world.

[2] "*The Law of Building and Buildings*," especially referring to building contracts, leases, easements and liens, by A. Parlett Lloyd of the Baltimore Bar. Boston: Houghton, Mifflin & Co. 1888. Price, $4.50.

between the builder and the "employer," who need not have agreed to it if he had thought it more for his interest not to do so.

In regard to the architect's compensation also, Mr. Lloyd seems to have followed the lucubrations of the autocrat of St. Albans rather than the decisions of the courts. He says that "formerly in England when no agreement was made with an architect, he received five per cent on the cost of the structure and two and one-half per cent for his plans and superintendence." We should have said that this extraordinary presentation of the custom for the charges of architects, which prevails throughout the civilized world, might with advantage have been corrected by a comparison with the schedule itself, which is to be found in the appendix, as well as in every price-book, builders' guide and surveyors' memorandum-book, but Mr. Lloyd takes the Grimthorpe view of the matter and merely informs us that "in 1862 a professional institution of architects issued a scale of charges, all on the percentage system, but in 1870 the Court of the Exchequer declared that this code of the profession was not binding, as its charges were unreasonable, and it was held 'contrary to good sense and justice and not a legal standard.'" The authority for this statement is, we need hardly say, our friend Lord Grimthorpe again, and Mr. Lloyd confesses in a foot-note that he has been unable to find any report of the decision referred to.

Our professional readers will not require to be told that this is a monstrous misstatement of the practice of courts in regard to their charges. The only basis that it can pretend to have is to be found in the rulings, which have been several times repeated in different forms, that a schedule of charges adopted in the profession, but not generally known to outsiders, is not presumed to have formed part of the contract between the architect and his client, in such a way as to prevent a jury from estimating on other grounds, if it prefers, the reasonable compensation which an architect in any particular case has earned. Of course there may be circumstances where five per cent on the proposed cost is evidently either too large or too small pay for the architect's services in relation to a building, and a jury ought not, in the opinion of these judges, to be precluded by the schedule from making its own estimate of what the services are worth, but the idea that the schedule-rates have ever been judicially declared to be an unreasonable compensation for architects' services generally is a very mistaken one and is contradicted by nearly all the cases concerning architects, where, if the five per cent rule is not admitted as a binding and well-known custom, as is now not unusual, no objection whatever is made to evidence showing that a definite sum, amounting to five per cent on the cost of the building concerned, is a proper charge, and the verdict is usually based on this evidence.

In one other point Mr. Lloyd's account of the relation of architects to their employers seems to us to need correction. In speaking of the architects' contract, he says that this "does not survive to his representative, so that if there is a contract to complete a certain work for a certain sum the representatives of the deceased architect cannot recover for the past performance." The moral of this is that architects should be careful never to make an agreement to do their work for a certain sum. It is true that a contract with an architect is a personal one, which cannot be assigned or devolved upon another person, and where an architect is so foolish as to agree to render his long and complicated service for a fixed sum, it might be doubtful whether his heirs, in case of his death before the completion of his commission, could recover any compensation for, perhaps, the work of the best years of his life. Under the ordinary system, however, of payment by percentage on the cost, although it may be argued that the commission for full service being five per cent on the cost, the architect who does not complete his service has no claim for compensation which his heirs can enforce, it has been decided in this country that the representatives of a deceased architect can recover compensation for his uncompleted work in proportion to the amount done.

It would hardly be fair to go farther with criticisms of a comparatively unimportant chapter in an excellent book, so, although certain points, as, for example, the definition that "the superintendent, foreman or boss of construction in this country corresponds with the official known in England as the clerk-of-the-works" invite comment, we will leave them and proceed to mention briefly the ensuing chapters on Building Nuisances, Sureties and Assignees of Contractors, Leases, Restrictions, Taxes and Assessments, Fixtures, Easements, Light and Air, Party-walls, Water, Gas, Highways, Drains and Sewers, Mechanics' Liens and other matters, containing a great deal of valuable matter. As an appendix to the chapter on liens is given an abstract of the lien laws of all the States, in which, however, we find quoted, as the present New York law, the Act of 1880, instead of the very different statute of 1885, by which that of 1880 was superseded.

Last of all comes a set of models for contracts, notices, bonds, leases and so on, the English and American Institute Schedules of Charges, a glossary and an index.

PROPOSED MONUMENTS. — Sculpture is gaining in public interest, as the increase of public statues shows. Just now six monuments of special prominence are projected or under way. One of the mother of Washington, at Fredericksburg; an equestrian statue to General Zachary Taylor; a monument to President Harrison, one to Francis Scott Key, at Frederick; one for Valley Forge and one for the battle of Point Pleasant in West Virginia. It is also proposed to give Brooklyn a Revolutionary monument that will cost $100,000.

SOCIETIES

ARCHITECTURAL LEAGUE OF NEW YORK.

THE mid-spring reunion and dinner of the Architectural League, now numbering one hundred and fifty-two practitioners, took place, as usual, the first Monday in May, and called forth the largest attendance of any regular meeting in the history of the association, which continues to grow steadily in numerical strength and artistic and professional importance; the practice inaugurated long since of having a paper read by some member at each meeting, was very creditably continued by Mr. A. F. D'Oench, Superintendent of the Department of Buildings of the City of New York, who spoke with ability on *Errors in Construction;* for his long experience, in the first city of the Union, had eminently fitted him for the subject and the task.

The committee on current work, after considerable trouble, were able to show the members a representative exhibit of the architectural efforts in original designing and drawing, of the pupils of three of the principal art institutions of this country, viz.:

Technical Classes of the Metropolitan Museum of Art, New York.
School of Mines, Columbia College, New York.
Architectural Department, Cornell University, Ithaca, N. Y.

Though the pupils' work was not to be compared to that of the famous Paris Ecole des Beaux-Arts for originality in composition, freedom of expression, or cleverness in interpretation, yet the artistic and technical standard was high enough to reflect the greatest credit and give hope and encouragement for the future of our native architectural schools.

The famous designs of Alma Tadema, R. A., for the piano and furniture of the music-room of the New York residence of H. G. Marquand, Esq., were shown for the first time, by the makers Johnstone, Norman & Co., of England.

The lines and ornaments are Greek, and scheme of color and combination of material are inlaid ivory or ebony and *vice-versâ;* the ivories being incrustated roughly and carved in relief, and then faintly stained in soft creams, pinks, delicate russetts, etc., while lumps of coral and mother-of-pearl are discreetly introduced in places, with fine artistic results; the designs are all pure, refined and creditable to the Greek style, while the execution of these extraordinary and unique pieces is not the least remarkable part of the models.

HENRY O. AVERY, *Secretary, pro tem.*

COMMUNICATIONS

A WARNING.

TO THE EDITORS OF THE AMERICAN ARCHITECT: —

Dear Sirs, — The communication in your issue of Dec. 24, 1887, from "Victim of Bad Faith," concerning the dismissal of an architect, the copying of his plans by a cheap architect, disputed commission, etc. All was settled by compromise: the town has recently voted to change location of building, and a new design will be required, and possibly the same tactics pursued to obtain it, as before, and a patronizing smile offered as remuneration (we have the plan, now let's see you help yourself). Any architects who intend to take a chance in the above, had better ascertain the price which will be paid before they waste any time, and do not let your plans go out of your sight, as the same Peeksniff may be lying in wait.

AN EYE WITNESS.

NOTES AND CLIPPINGS

LEGENDS OF ARTISTS. — In illustration of the parasitic growth of legend and tradition may be also cited the story told by Tzetzes the Grammarian, some seventeen centuries after the death of Phidias. According to him, Alcamenes and Phidias competed in making a statue of Athena, to be placed in an elevated position; and when their figures were finished and exposed to public view near the level of the eye, the preference was decidedly given to the figure of Alcamenes; but as soon as the figures were elevated to their destined position, the public declared immediately in favor of that of Phidias. The object of the writer of this story is to prove the extraordinary skill of Phidias in optical perspective, and to show that he had calculated his proportions with such foresight, that though the figure, when seen near the level of the eye, appeared inharmonious, it became perfectly harmonious when seen from far below. Now all that any artist could do to produce this effect would be, perhaps, to give more length to its proportions in comparison with its breadth. This, however, would be not only a doubtful expedient in itself, but entirely at variance with the practice of Phidias. His figures, like all the figures of his period, were stouter in proportion to their breadth, and particularly stouter in the relation of the lower limbs to the torso than the figures of a latter period. The canon of proportion accepted then was that of Polycletus; and they were afterwards varied and lengthened in the lower limbs, first by Euphranor, and subsequently still more by Lysippus. Any distortion or falsification of proportion would soley be effective

in a statue with one point of view, and exhibited as a relief; for if it were a figure in the round, and seen from all points, the perspective would be utterly false, unless the proportions were harmonious in themselves and true to nature. Tzetzes is a great gossip, and peculiarly untrustworthy in his statements; but his story is of such a nature as to please the ignorant public, and it has been accepted and repeated constantly, though he does not give any authority for it, and plainly invented it out "of the depths of his own consciousness," as the German savant did the camel. One cannot be too careful in accepting traditions about artists or their works. The public invents its facts, and believes what it invents. Very few of the pleasing anecdotes connected with artists will bear critical examination, any more than the famous sayings attributed on great occasions to extraordinary men; still the grand phrase of Cambronne is as gravely repeated in history as if it had any foundation in fact, and everybody believes that Da Vinci died in the arms of Francis I. Perhaps it is scarcely worth while to break up such pleasant traditions, and certainly the public resists such attempts. It is so delightful to think that the gallant and accomplished King of France supported the great Italian artist, and soothed his last moments, that it seems sheer brutality to dissipate such an illusion; yet, unfortunately, we know that Leonardo died at Cloux, near Amboise, on May 2, 1679 — and from a journal kept by the king, and still (disgracefully enough) existing in the Imperial library in Paris, we know that on that very day he held his court at St. Germain in Laye; and besides this, Lomazzo distinctly tells us that the king first heard the news of Leonardo's death from Melzi; while Melzi himself, who wrote to Leonardo's friend immediately after his death, makes no mention of such a fact. — *W. W. Story.*

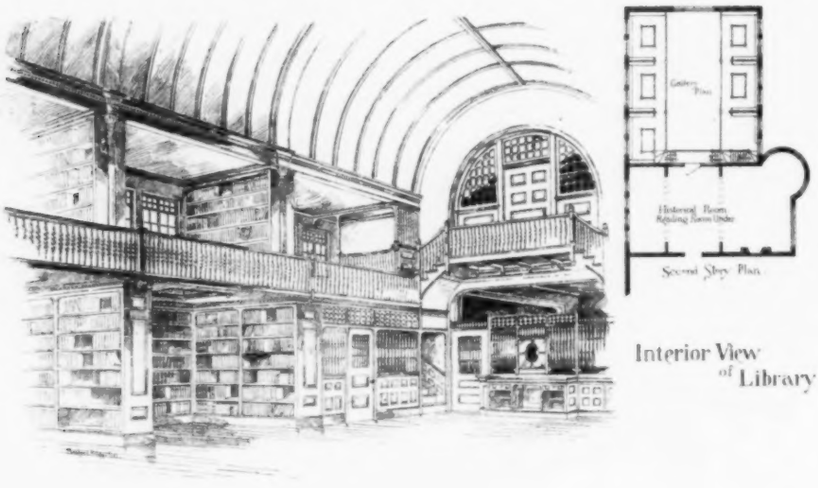
The Disadvantages of Professions. — Mr. Wyatt Papworth, whose reputation, as a judicious collector of newspaper-cuttings, has been long established, thinks that the following paragraph which formed part of an article in the *Evening News* of the 20th of January, 1888, should find a corner in this *Journal*: "The law, as a profession, is densely overcrowded. . . . Every term large numbers are added to the profession, averaging some 1,500 per year. Most of these are young men who, when admitted to practice are totally without experience, and are let loose to legally prey upon society at will. Refer to the law journals and columns of advertisements will be seen from fully-fledged solicitors who, after admittance, are unable to find employment. To acquire experience they offer their services to the trade at an average of 25*s.* per week — sometimes for a less sum than a chimney-sweep or a dustman would demand for his labor. These young, inexperienced lawyers are empowered by law to charge at precisely the same rate — neither more nor less — as the most experienced and talented member of the profession. The most trashy advice is precisely the same in price as the most profound. Any one who offers to charge less is looked upon as a legal knobstick capable of outraging the most solemn obligation of the profession, which is to obtain the utmost farthing from a litigant. This uniformity of price, irrespective of quality, is one of the follies of the law. It is a premium on incapacity. Were the lawyers to charge for their skill and be paid according to their worth, only capable men would be employed. The law appears to be a profession of great responsibility and profit, as it undoubtedly is; and parents, without studying the natural inclination and special abilities of their sons, anxious to place them in a position where they can ascend in the social scale, article them to lawyers, and the great majority who are admitted totally fail on account of their not possessing the peculiar talents which ensure success. They are handicapped in the race of life by the conditions inherent in their profession. However able or skilful a lawyer may be, he is debarred from advertising his extraordinary cleverness, cheapness, and superior qualifications, like his brother the tailor, the shoemaker, or the draper." — *R. I. B. A. Journal.*

Vandalism by a Clergyman at Westminster Abbey. — The *Times* reports that at the Westminster Police Court on Wednesday last, the Rev. Watkin Davies, vicar of St. Bride's, Wentloog-with-Coedkernew, Cardiff, Monmouthshire, was charged before Mr. D'Eyncourt, at the instance of the Dean and Chapter of Westminster Abbey, with wilfully damaging the ancient credence table in the St. Erasmus Chapel of the Abbey. A police-constable in plain clothes deposed that he saw the defendant enter the St. Erasmus Chapel, which was sometimes called the Royal Chapel, from the north transept, and chip the base of the credence table with the end of his umbrella. The pieces of stone he knocked off he put in his pocket, and witness then took him into custody and asked him what he meant by such conduct. The defendant's answer was that he was not aware he was doing any harm, and that he had only taken a few pieces of the stone as a relic. Mr. Thomas Wright, clerk-of-the-works at the Abbey, said that many of the ancient monuments were damaged by persons chipping pieces away as relics. The pieces of stone chipped off the table, which were about the size of a walnut, were handed to his Worship, who asked the defendant what answer he could make to such a charge Mr. Davies said he had nothing at all to say, except that he did not know that he was doing any harm. Further questioned by Mr. D'Eyncourt as to his motive, the defendant said "I was picking the pieces for relics." Mr. D'Eyncourt. — You really ought to know the value of ancient monuments and to venerate them accordingly. I must fine you 40*s.* for the wilful damage.

TRADE SURVEYS

Stock speculators are very impatient over the unfavorable market conditions. There is no inducement to buy and sell in a large way. Stocks, like values in other directions, have a downward tendency, while gross earnings on a great many railroads are increasing, net earnings are declining. On the New York Central, Erie, Pennsylvania and Baltimore & Ohio, the gross earnings for six months ending April 1, showed an increase of about $3,000,000, while the net earnings for that time showed a decrease of about $1,000,000. The same ratio runs through nearly all the leading systems, West and East. While the volume of traffic is increasing, the compensation to the companies for their service is declining. Hence, there is less speculation in stocks, less railroad construction, and a disposition to reduce expenses for equipments and supplies, and to throw off men wherever their services can possibly be dispensed with. The railroad companies, in many cases, are animated with a desire to let organized labor know that labor is not in such urgent demand as might be supposed. The failure of the C. B. & Q. strike, has suddenly disposed of a good many grievances among railroaders. Just as failures in other directions have served to teach labor that the time to strike has either passed, or has not yet come. One of the strong factors in the situation three or six months hence will be a more contented body of labor. Another of the strong factors that will go to make up a healthful condition of affairs next autumn and winter, will be hard-pan prices. The downward tendency which is now at work in every direction, is bringing railroad freight rates in its course. The wars in the Northwest are not likely to be adjusted, excepting on a lower basis. The Canadian Pacific now controls the "Soo" route, and that may be taken as evidence that there will be no combination for higher prices on the trunk lines West of Chicago. There is barely enough traffic on the trunk lines East, to satisfy all members of the pool. Yet, railroad authorities state — what is, no doubt, a fact — that in the aggregate, railroad traffic is increasing; that less injustice is done to shippers, big or little, and that the benefits of the Inter-state Commerce Law are now being practically realized in the way that the framers of that law anticipated. The producing capacity is still being restricted within the limits designated by actual demand. There is not a single industry that can be named, wherein overproduction is visible. The iron-making capacity is running to about 75 per cent, as nearly as it is possible to estimate from all reports received from week to week; rail-makers are booking a few large and small orders, but there is very little business now in hand or in sight for the summer or fall. Prices remain where they were three or four months ago. Alabama pig-iron has been unsettling prices throughout the North. Most of the furnaces there are sold away ahead, while Pennsylvania and Ohio furnaces are standing idle, or fearing the competition from the South. Freight rates have been lowered 20 cents per ton on Southern and Western roads, and one railroad company in Eastern Pennsylvania has reduced coal and freight charges, and iron-makers are awaiting a similar course by two other railroad companies, in order that they may be able to compete successfully with the iron of the West and South, which for some time past has been creeping into their territory. The building situation throughout the United States, may be given in a nutshell, as follows: In the New England States, there is not, as yet, quite the same degree of activity as there was last year; in many towns, there is the promise of an improvement. Manufacturing establishments will have their capacity improved somewhat, but there is no general expansion probable. The trade conditions are favorable. Boot and shoe manufacturers are even busier than last year; electrical-supply establishments are busier; paper-makers are making and selling more paper than a year ago, and paper-making capacity is being increased in New England and also in Wisconsin. The smaller industries throughout the East are all fairly well supplied with business, but the manufacturers are careful to avoid extensive purchases of material; and yet, the prediction is frequently heard, that the summer and fall trade will make up for the winter and spring. The faith in this improvement is deep and widespread; it is met with among the builders, architects, mechanics and shopmen of the West. Throughout the Middle States there is more activity in building, especially in cities like Philadelphia, Pittsburgh, Buffalo and Albany. Philadelphia has taken a sudden spurt of activity, and the distribution of lumber and building material has been gratifying. A great deal of work is underway throughout the interior of Pennsylvania. It is probable that the Reading terminus will be authorized at Twelfth and Market Streets, Philadelphia, and that work will begin before the end of the year. A company has been organized to construct tunnels running at right angles to each other through the city for passenger traffic. From present indications, 6,000 small houses will be built. Building operations are being actively pushed in Pittsburgh, and there is a healthy activity in all the manufacturing towns of Ohio and Indiana. Forty firms have located at Findlay, O., within four months. There are twelve glass factories in that town, and others are coming. The coal output of Ohio is increasing, notwithstanding the Natural gas development. Indiana gas-fields are also attracting manufacturing enterprise, though the coal-fields of that State and Illinois are not keeping pace with the development in newer fields farther West. The distribution of lumber during the past thirty days has dissipated the doubts which manufacturers and dealers entertained a few weeks ago. Prices have not been cut except in isolated cases, in any markets throughout the country. The manufacture of lumber has been retarded by natural causes and by judicious management in the Northwest, while in the South its manufacture has been stimulated by Northern capital and enterprise, and by a demand which seems equal to the consumption of every car and cargo that thus far has come to market. The architects and builders from New York to Duluth and Omaha are pleased at the building developments of the past few weeks; every Western city feels the stimulus of an improving demand. The favorable reports heretofore made concerning industrial activity in the South, can only be repeated. Upwards of 100 cotton mills have been projected since last September; the bulk of these have been undertaken, or will be at an early day. Inquiry with manufacturers of textile machinery, corroborates the scattering statements from projectors and promoters, concerning the present and prospective activity in demand for all kinds of textile machinery used in the South. The manufacture of cheviots and dress goods of the higher grade is being introduced in an experimental sort of way, as well as silk culture and manufacturing, and there appears to be no reason why such enterprise should not be sufficiently regarded to lead to further like efforts. There is a downward tendency in prices, which for the time being, is repressive in its nature; but the outcome will be, as it always has in years past, a strengthening of the foundations of trade and a widening of markets. Vast timber regions have been opened in the South, and a doubling of the supply of Southern lumber is a strong probability within the next two years. There is a scarcity of coke in the South, but the enterprise of Southern manufacturers will be equal to this emergency. Southern railroad managers seem to have caught the spirit of progress, and are working hand in hand with the manufacturing and agricultural interests to increase the industrial activity, that they may profit by the resulting increase in traffic. The manufacturers of brick are barely able to meet the current requirements; an increasing demand is met within country places where lumber has heretofore been mainly used. There is an improving demand for slate and for fireproof material. The manufacturers of pipe of all kinds, excepting for natural-gas, have been able to keep their establishments quite busy.

S. J. Parkhill & Co., Printers, Boston.

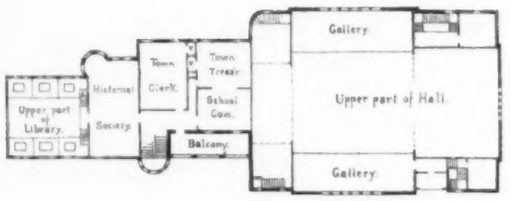


Interior View of Library

TOWN HALL & LIBRARY, WINCHESTER,

RAND & TAYLOR, ARCHITECTS.

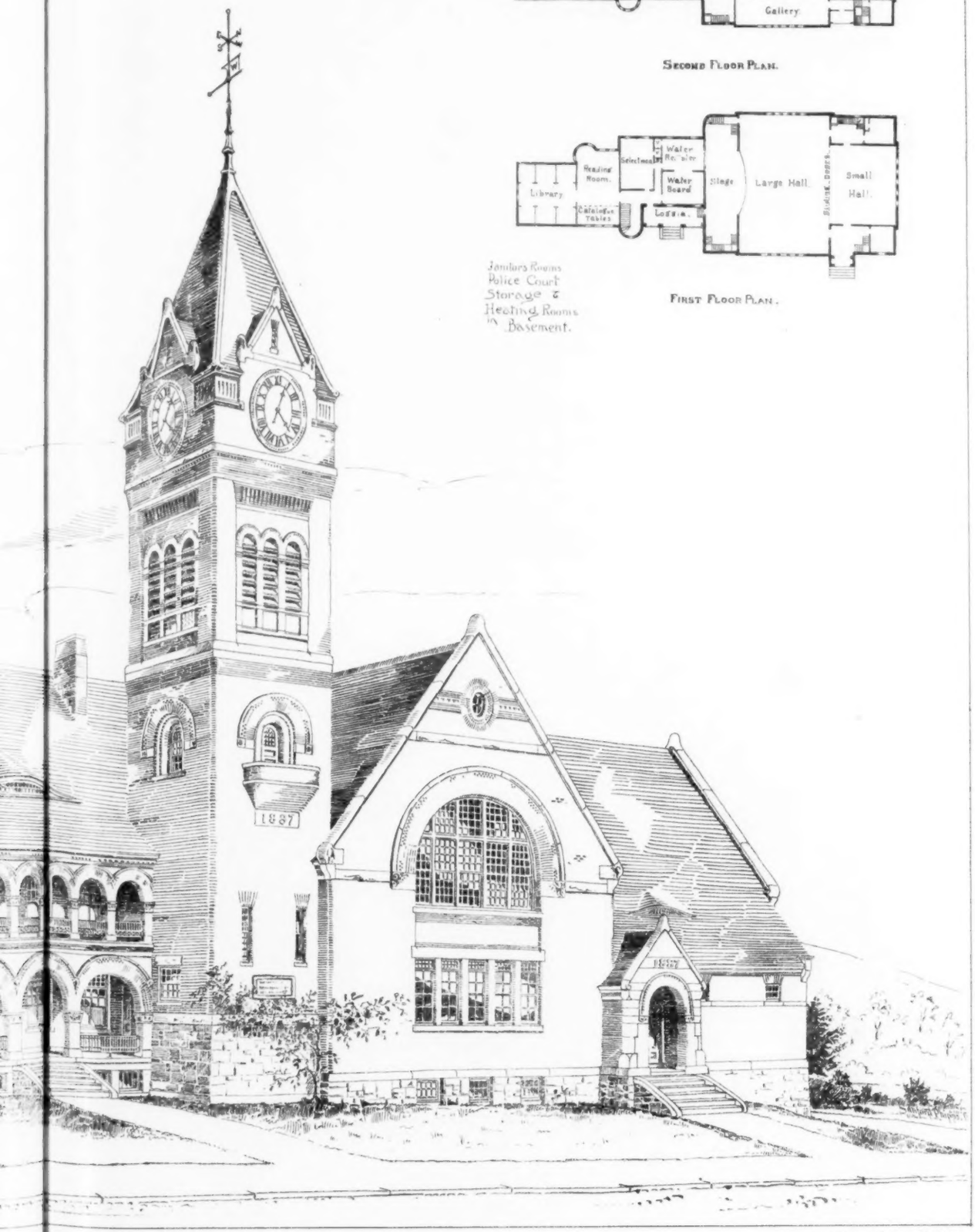
1887 — 8



SECOND FLOOR PLAN.

Janitors Rooms
Police Court
Storage &
Heating Rooms
in Basement.

FIRST FLOOR PLAN.



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HOUSE · FOR · MR · H · E · BREWSTER · UTICA · N.Y.
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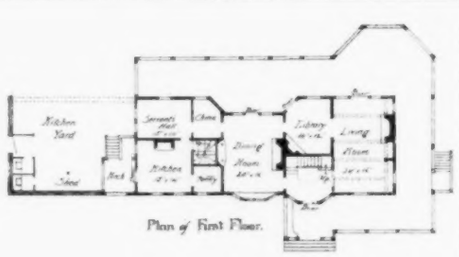
House at Little Harbor
N.H.



Plan of First Floor.

Longfellow Alden & Harlow
6 Beacon St.

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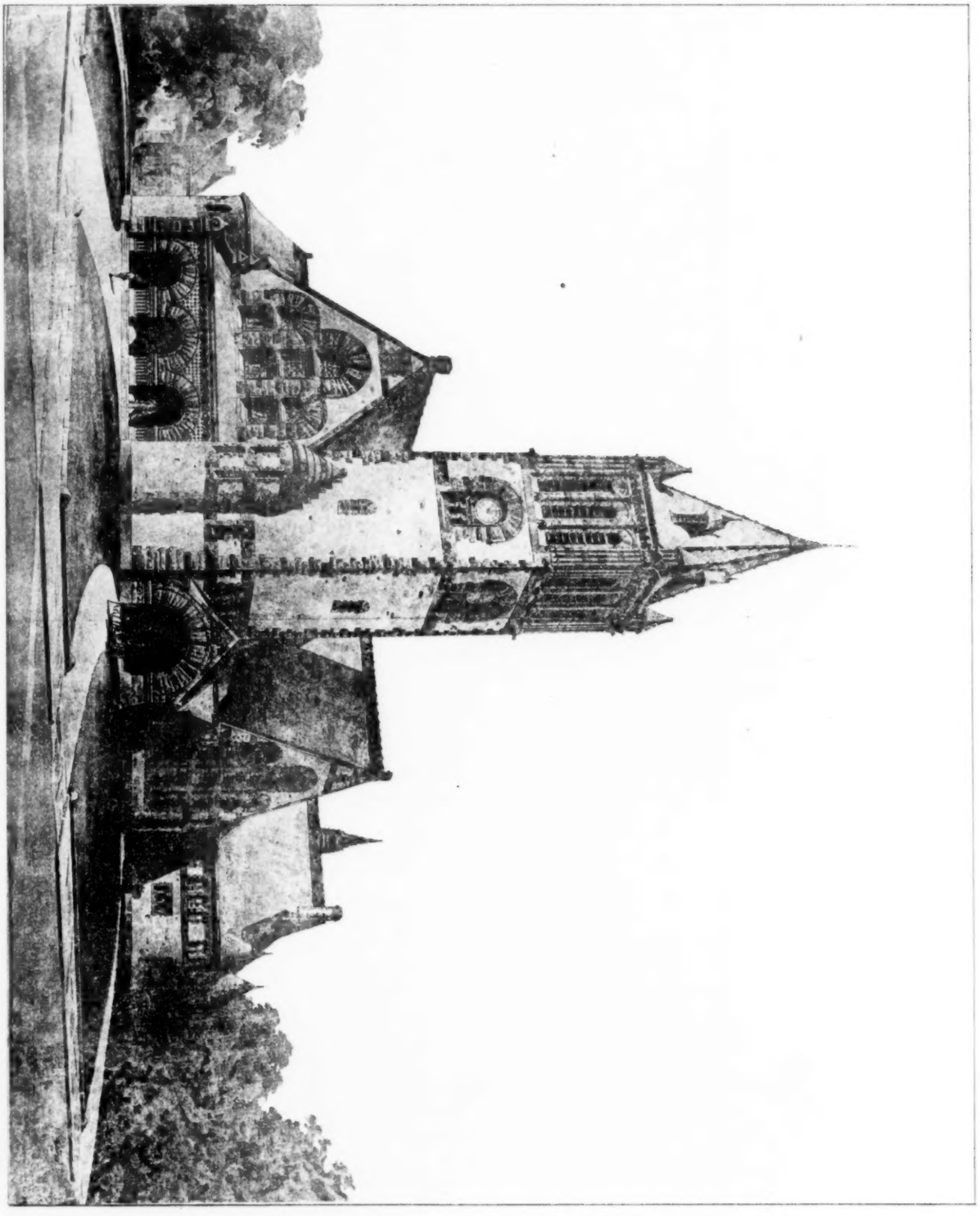

Design for ELLIOT CHURCH Newton, Mass.

H. H. RICHARDSON, ARCHITECT.

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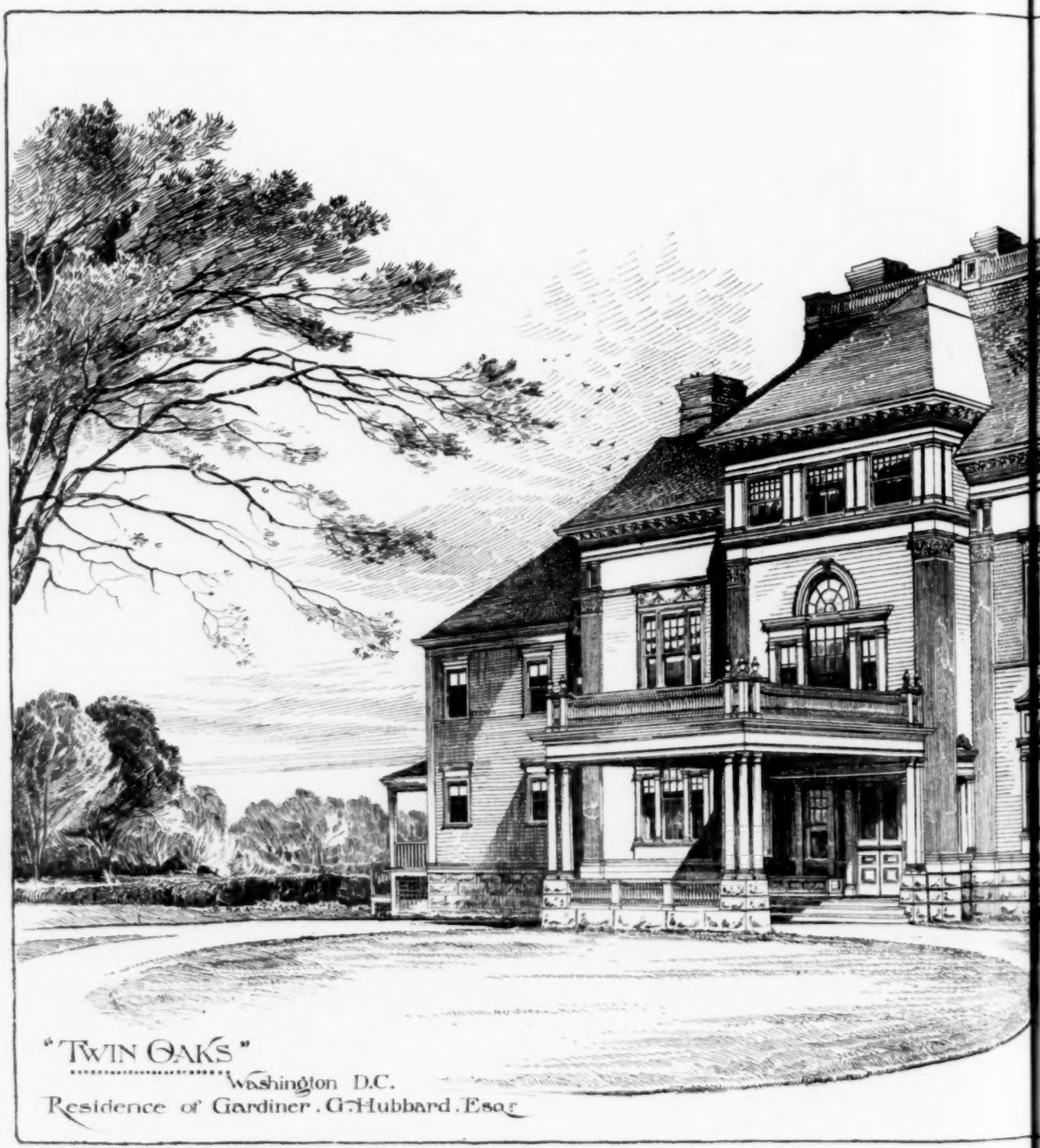

"TWIN OAKS"
Washington D.C.
Residence of Gardiner. G. Hubbard. Esq.

BOSTON LITHOGRAPHING CO.

Allen & Kenway, Architects, Boston, Mass.

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